CHAMBERS GROUP

APPENDIX G – SOIL DESCRIPTIONS

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SOIL DESCRIPTIONS

The soils described below, identified from (websoilsurvey.nrcs.usda.gov), were documented within the survey county areas and described by the USDA-NRCS Soil Survey Division (soils.usda.gov/technical/classification/osd/index.html). Soils, complexes, and associations are organized and described by individual soil series.

As defined by the U.S. Department of Agriculture, Natural Resources Conservation Service (2009), complexes and associations consist of two or more dissimilar components that occur in a regularly repeating pattern. The total amount of other dissimilar components is minor extent. The following arbitrary rule, set forth by the National Cooperative Soil Survey standards and procedures, determines whether complex or association is used in the name. The major components of an association can be separated at the scale of mapping. In either case, because the major components are sufficiently different in morphology or behavior, the map unit cannot be called a consociation. In each delineation of a complex or an association, each major component is normally present though their proportions may vary appreciably from one delineation to another. The total amount of inclusions in a map unit that are dissimilar to any of the major components does not exceed 15 percent if limiting and 25 percent if non-limiting. A single kind of dissimilar limiting inclusion usually does not exceed 10 percent.

1.1. SAN BERNARDINO COUNTY

Cajon Series

Cajon loamy sand (0 to 5 percent slopes) loamy substratum (0 to 2 percent slopes), Cajon sand (0 to 2 percent slopes), (0 to 9 percent slopes) - The Cajon series consists of very deep, somewhat excessively drained soils that formed in sandy alluvium from dominantly granitic rocks at elevations between 200 to 4,300 feet. Taxonomic classes for this series include mixed and thermic Typic Torripsamments. These soils occur on recent fans, fan skirts, fan aprons, inset fans and river terraces with slopes of 0 to 15 percent. Coloration is light gray, light brownish gray, very pale brown, light gray, very pale brown, brown, pale brown, light yellowish brown down to 60 inches deep. The mean annual precipitation is 2 to 9 inches and mean annual and temperature is 57 degrees to 70 degrees Fahrenheit. The average frost-free season is about 150 to 340 days. The primary use of this soil is mostly for range, watershed, and recreation and growing alfalfa and other crops and vegetation mainly consists of desert shrubs including creosotebush, saltbush, Mormon-tea, Joshua trees, some Indian ricegrass, annual grasses and forbs.

Halloran Series

Norob-Halloran complex (0 to 5 percent slopes) – The Halloran series consists of deep, moderately well drained soils that formed in mixed alluvium dominantly from granitic sources at elevations between 800 to 1,850 feet. Taxonomic classes for this series include coarse-loamy, mixed, superactive and thermic Typic Natrargids. These soils occur on old alluvial terraces and depressional areas with slopes of 0 to 2 percent. Coloration is very pale brown, yellowish brown, reddish brown, reddish yellow, strong brown, yellow, light yellowish brown, mixed yellow down to 60 inches deep. The mean annual precipitation is 4 inches and mean annual and temperature is 61 to 63 degrees Fahrenheit. The average frost-free season is about 190 to 255 days. The primary use of this soil is for mainly for wildlife habitat and recreation. Small areas are used for irrigated alfalfa, small grains and pasture and vegetation mainly consists of creosotebush, saltbush, and alkali tolerant vegetation. Where wind blown hummocks and small dunes occur, mesquite trees grow

Helendale Series

Helendale loamy sand (2 to 5 percent slopes)– The Helendale series consists of very deep, well drained soils that formed in alluvium from granitoid rocks at elevations between 2,000 to 3,800 feet. Taxonomic classes for this series include Coarse-loamy, mixed, superactive, thermic Typic Haplargids. These soils occur on fan piedmonts, alluvial fans and terraces with slopes of 0 to 9 percent. Coloration is very pale brown, dark yellowish brown, brown, yellowish brown, light yellowish brown, yellow down to 106 inches. The mean annual precipitation is 4 to 8 inches and mean annual and temperature is 63 to 68 degrees Fahrenheit. The average frost-free season is about 280 to 320 days. The primary use is for irrigated pasture, small grains and alfalfa. They are also used for homesites, military operations and recreation. Vegetation mainly consists of creosotebush, bursage, Mormon-tea, Joshua tree, and annual forbs and grasses.

Kimberlina Series

Kimberlina loamy fine sand, cool, (0 to 2 percent slopes) – The Kimberlina series consists of very deep, well drained soils on flood plains and recent alluvial fans that formed in mixed alluvium derived dominantly from igneous and/or sedimentary rock sources at elevations between 125 to 2,250 feet in the San Joaquin Valley and cool phases occur at 1,800 to 4,100 feet in the Mojave Desert . Taxonomic classes for this series include Coarse-loamy, mixed, superactive, calcareous, thermic Typic Torriorthents. These soils occur on alluvial fans and flood plains with slopes of 0 to 9 percent. Coloration is brown, dark grayish brown, pale brown down to 71 inches deep. The mean annual precipitation is 4 to 8 inches and mean annual and temperature is 59 degrees to 62 degrees Farhenheit in the Mojave Desert and 61 degrees to 65 degrees Fahrenheit in the San Joaquin Valley. The average frost-free season is 240 to 300 days in the San Joaquin Valley and 190 to 250 days in the Mojave Desert. The primary use of this soil is for growing irrigated field, forage, and row crops. Some areas used for livestock grazing, and vegetation mainly consists of annual grasses, forbs, and atriplex spp. in the San Joaquin Valley.

Lithic torriorthents

Rock outcrop-lithic torriorthents complex percent slopes – No description available.

Norob Series

Norob sandy loam (2 to5 percent slopes), Norob-Halloran complex– The Norob series consists of very deep, moderately well drained soils that formed from mixed alluvium, with many areas having eolian deposits on the soil surface at elevations 2,300 to 3,200 feet. Taxonomic classes for this series include Fine-loamy, mixed, superactive, thermic Typic Natrargids. These soils occur on alluvial plains and alluvial flats with slopes of 0 to 5 percent. Coloration is light yellowish brown, brown, dark brown, yellowish brown down to 60 inches deep. The mean annual precipitation is 4 to 6 inches and mean annual and temperature is 62 to 65 degrees Fahrenheit. The average frost-free season is about 200 to 250 days. The primary use of this soil is for mainly for livestock grazing, military operations, and recreation, and vegetation mainly consists of atriplex, creosotebush, and scattered annual grasses and forbs.

Rock

Rock outcrop-lithic torriorthents complex percent slopes – No description available.

Rosamond Series

Rosamond loam, saline-alkali – The Rosamond series consists of deep, well drained soils that formed in material weathered mainly from granitic alluvium at elevations between 2,200 to 2,900 feet. Taxonomic classes for this series include Fine-loamy, mixed, superactive, calcareous, thermic Typic Torrifluvents. These soils occur on the lower margin of the alluvial fans between the sloping fans and the playas with slopes of 0 to 2 percent. Coloration is light brownish gray, dark grayish brown, dark brown, pale brown down to 60 inches deep. The mean annual precipitation is 3 to 6 inches and mean annual and temperature is 61 and 65 degrees Fahrenheit. The average frost-free season is about 200 to 260 days. The primary use of this soil is for desert range, other extensive areas are irrigated and cropped to alfalfa and row crops, and vegetation mainly consists of rabbit brush, big sagebrush, a small amount of Atriplex and a little annual and perennial grass and weeds.

Victorville Series

Victorville sandy loam, variant sand– The Victorville series consists of deep, moderately well drained soils that formed in mixed alluvium, dominantly from granitic sources at elevations between 2,200 to 2,800 feet. Taxonomic classes for this series include Coarse-loamy, mixed, superactive, calcareous, thermic Typic Torrifluvents. These soils occur on on low river terraces and flood plains with slopes of 0 to 2 percent. Coloration is grayish brown, very dark grayish brown, gray, very dark gray, dark brown, very pale brown, brown down to 60 inches deep. The mean annual precipitation is 4 or 5 inches and mean annual and temperature is 61 to 65 degrees Fahrenheit. The average frost-free season is about 210 to 255 days. The primary use of this soil is for irrigated crops such as alfalfa, pasture, and small grains, and vegetation is sparse of rabbitbrush, salt grass, annual weeds and grasses and some cottonwood trees.

Villa Series

Villa loamy sand, Hummocky– The Villa series consists of deep, moderately well drained soils that formed in alluvium derived mainly from granitic rocks at elevations between 2,100 to 2,800 feet. Taxonomic classes for this series include Sandy, mixed, thermic Typic Torrifluvents. These soils occur on river flood plains with slopes of 0 to 2 percent. Coloration is light brownish gray, dark grayish brown, grayish brown, pale brown, brown down to 60 inches deep. The mean annual precipitation is 4 to 6 inches and mean annual and temperature is 61 to 65 degrees Fahrenheit. Moderately well drained with an intermittent water table occurring at a depth of 36 inches to 6 feet for brief intervals during the winter and late spring. Slow runoff; moderately rapid permeability. The average frost-free season is about 200 to 250 days. The primary use of this soil is for used for irrigated crops such as alfalfa, and vegetation mainly consists of saltbush, mesquite, creosotebush, annual grasses and forbs.

1.2. KERN COUNTY

Cajon Series

Cajon loamy sand (0 to 5 percent slopes)-The Cajon series consists of very deep, somewhat excessively drained soils that formed in sandy alluvium from dominantly granitic rocks at elevations between 200 to 4,300 feet. Taxonomic classes for this series include Mixed, thermic Typic Torripsamments. These soils occur on recent fans, fan skirts, fan aprons, inset fans and river terraces with slopes of 0 to 15 percent. Coloration is light gray, light brownish gray, very pale brown, light gray, very pale brown, brown, pale brown, light yellowish brown down to 60 inches deep. The mean annual precipitation is 2 to 9 inches

and mean annual and temperature is 57 degrees to 70 degrees Fahrenheit. The average frost-free season is about 150 to 340 days. The primary use of this soil is for mostly for range, watershed, and recreation and growing alfalfa and other crops and vegetation mainly consists of desert shrubs including creosotebush, saltbush, Mormon-tea, Joshua trees, some Indian ricegrass, annual grasses and forbs.

Neuralia Series

Neuralia sandy loam (2 to 5 percent slopes), Norob-Neuralia complex (0 to 5 percent slopes) – The Neuralia series consists of very deep, well drained soils formed in alluvium from mixed sources. at elevations between 2,300 to 4,200 feet. Taxonomic classes for this series include Fine-loamy, mixed, superactive, thermic Typic Haplargids. These soils occur on alluvial fans, fan terraces, and plains with slopes of 0 to 15 percent. Coloration is yellowish brown, brown, variegated brown, light brown down to 60 inches deep. The mean annual precipitation is 4 to 6 inches and mean annual and temperature is 57 to 62 degrees Fahrenheit. The average frost-free season is about 200 to 250 days. The primary use of this soil is for rangeland, recreation, and wildlife habitat, and vegetation mainly consists of bursage, creosotebush, and scattered annual grasses.

Norob Series

Norob sandy loam (2 to5 percent slopes), Norob-Neuralia complex (0 to5 percent slopes) – The Norob series consists of very deep, moderately well drained soils that formed from mixed alluvium, with many areas having eolian deposits on the soil surface at elevations 2,300 to 3,200 feet. Taxonomic classes for this series include Fine-loamy, mixed, superactive, thermic Typic Natrargids. These soils occur on alluvial plains and alluvial flats with slopes of 0 to 5 percent. Coloration is light yellowish brown, brown, dark brown, yellowish brown down to 60 inches deep. The mean annual precipitation is 4 to 6 inches and mean annual and temperature is 62 to 65 degrees Fahrenheit. The average frost-free season is about 200 to 250 days. The primary use of this soil is for mainly for livestock grazing, military operations, and recreation, and vegetation mainly consists of atriplex, creosotebush, and scattered annual grasses and forbs.

1.3. INYO COUNTY

Aquents

Aquents-Aquic torripsamments association (0 to 2 percent slopes) – No description available.

Aquic torripsamments

Aquents-Aquic torripsamments association (0 to 2 percent slopes) – No description available.

Avalmount Series

Avalmount-Lava flows complex (5 to 30 percent slopes) – The Avalmount series consists of very deep, well drained soils at elevations between 4,800 to 6,600 feet. Taxonomic classes for this series include ashy-skeletal, glassy amd mesic Vitrixerandic Haplocambids. These soils occur on lava flows and cinder cones with slopes of 5 to 30 percent. Coloration is dark brown and yellowish brown down to 60 inches deep. The mean annual precipitations are 8 to 10 inches and mean annual temperatures are 50 to 54 degrees Fahrenheit. The average frost-free season is about 140 to 160 days. The primary uses of this soil

are for livestock grazing and wildlife habitat, and the vegetation is mainly big sagebrush, desert needlegrass and Nevada ephedra.

Arizo Series

Arizo gravelly loamy sand (5 to 9 percent slopes) (9 to 15 percent slopes), Arizo-Yellowrock complex (5 to 9 percent slopes) – The Arizo series consists of very deep, excessively drained soils that formed in mixed alluvium at elevations between 750 to 4,600 feet. Taxonomic classes for this series include sandy-skeletal, mixed, and thermic Typic Torriorthents. These soils occur on recent alluvial fans, inset fans, fan apron, fan skirts, stream terraces, floodplains of intermittent streams and channels with slopes of 0 to 15 percent. Coloration is light brownish gray and dark grayish brown down to 62 inches deep. The mean annual precipitations are 2 to 10 inches and mean annual temperature is 57 to 70 degrees Fahrenheit. The geographic climate is arid or semiarid with an average frost-free season of about 180 to 340 days. The primary use of this soil is for rangeland and wildlife habitat, and vegetation mainly consists of creosotebush and white bursage.

Blindspring Series

Blindspring gravelly loamy sand (0 to 5 percent slopes) (dry, 0 to 5 percent slopes) – The Blindspring series consists of very deep, somewhat excessively drained soils that formed in ashy alluvium at elevations between 4,300 and 5,500 feet. Taxonomic classes for this series include ashy, glassy, nonacid, and thermic Vitrandic Torripsamments. These soils occur on nearly level to gently sloping valley floors near upland volcanic formations with slopes of 0 to 5 percent. Coloration is very pale brown and brown down to 60 inches deep. The mean annual precipitations are 5 to 8 inches and mean annual temperature is 57 to 62 degrees Fahrenheit. The average frost-free season is about 140 to 180 days. The primary use of this soil is for grazing and wildlife habitat, and vegetation mainly consists of fourwing saltbush, shadscale, Fremont dalea, Indian ricegrass, and desert needlegrass.

Cajon Series

Cajon gravelly loamy sand(0 to 5 percent slopes), Cajon gravelly sand (0 to 5 percent slopes), Cajon loamy sand, stratified substratum (0 to 5 percent slopes), Cajon-Mazourka complex (0 to 2 percent slopes), Cajon-Mazourka-Eclipse complex (0 to 2 percent slopes), Cajon-Typic Torriorthents complex (0 to 5 percent slopes), Helendale-Cajon complex (0 to 5 percent slopes), Helendale-Cajon complex (dry, 0 to 5 percent slopes), Mazourka-Slickspots-Cajon complex (0 to 2 percent slopes) – The Cajon series consists of very deep, somewhat excessively drained soils that formed in sandy alluvium from dominantly granitic rocks at elevations between 200 to 4,300 feet. Taxonomic classes for this series include mixed and thermic Typic Torripsamments. These soils occur on alluvial fans, fan aprons, fan skirts, inset fans and river terraces with slopes of 0 to 15 percent. Coloration is light gray, light brownish gray, very pale brown, brown, pale brown, and light yellowish brown down to 60 inches deep. The mean annual precipitations are 2 to 9 inches and mean annual temperature is 57 to 70 degrees Fahrenheit. The average frost-free season is about 150 to 340 days. The primary use of this soil is for range, watershed, and recreation, and vegetation mainly consists of desert shrubs including creosotebush, saltbush, mormon-tea, Joshua trees, some Indian ricegrass, annual grasses and forbs. A few areas are irrigated and are used for growing alfalfa and other crops.

Cartago Series

Cartago gravelly loamy sand (0 to 2 percent slopes) (2 to 5 percent slopes), Goodale-Cartago complex (0 to 2 percent slopes) (2 to 5 percent slopes) (5 to 15 percent slopes), Goodale-Cartago complex (moist, 5 to 15 percent slopes), Hesperia-Cartago complex (0 to 5 percent slopes) – The Cartago series consists of very deep, somewhat excessively drained soils formed in granitic alluvium and in some small areas mixed alluvium at elevations between 3,700 to 5,500 feet. Taxonomic classes for this series include sandy, mixed, and thermic Xeric Torriorthents. These soils occur on alluvial fans, fan terraces, and edges of valley floors with slopes of 0 to 30 percent. Coloration is light yellowish brown and dark yellowish brown down to 60 inches deep. The mean annual precipitations are 4 to 10 inches and mean annual temperature is 57 to 61 degrees Fahrenheit. The average frost-free season is about 140 to 200 days. The primary use of this soil is for grazing, wildlife habitat, and as a source of road construction material, and vegetation mainly consists of spiny hopsage, Cooper goldenbush, Nevada ephedra and desert needlegrass.

Conway Series

Dehy-Conway-Lubkin association, (0 to 9 percent slopes) – The Conway series consists of very deep, poorly drained soils that formed in alluvium derived from granitic and mixed sources influenced by volcanic ash at elevations between 6,000 to 8,600 feet. Taxonomic classes for this series include coarse-loamy, mixed, superactive and frigid Cumulic Endoaquolls. These soils occur on flood plains and alluvial fans with slopes of 0 to 15 percent. Coloration is grayish brown, very dark grayish brown, very dark brown, light brownish gray, olive gray, white and greenish gray down to 60 inches deep. The mean annual precipitations are 8 to 16 inches, and mean annual temperature is 43 to 54 degrees Fahrenheit. Endosaturation is present with an apparent seasonal high water table between 0.5 and 4 feet year-round but it is above 2 feet in spring. These soils are susceptible to occasional flooding for brief periods between January and June. The average frost-free season is about 70 to 150 days. The primary use of this soil is for pasture and wetland wildlife habitat, and vegetation mainly consists of sedges, tufted hairgrass, and Sandberg's bluegrass.

Dehy Series

Dehy loam (0 to 2 percent slopes), Dehy sandy loam (0 to 2 percent slopes), Dehy sandy loam (loamy substratum, 0 to 2 percent slopes), Dehy-Dehy calcareous complex (0 to 2 percent slopes), Dehy-Conway-Lubkin association, (0 to 9 percent slopes) – The Dehy series consists of very deep, somewhat poorly drained soils that formed in alluvium derived from mixed sources at elevations between 3,600 to 4,800 feet. Taxonomic classes for this series include coarse-loamy, mixed, superactive, and mesic Oxyaquic Haploxerolls. These soils occur on alluvial fans and low stream terraces with slopes of 0 to 30 percent. Coloration is dark gray, very dark gay, grayish brown, dark grayish brown, yellowish brown, dark yellowish brown, pale brown, and brown down to 60 inches deep. The mean annual precipitations are 4 to 8 inches and mean annual temperature is 57 to 64 degrees Fahrenheit. The apparent seasonal high water table is between 2 and 5 feet deep, which occur from March 1 to June 1, and the average frost-free season is about 140 to 220 days. The primary use of this soil is for irrigated pasture, and vegetation mainly consists of mixed pasture grasses.

Eclipse Series

Cajon-Mazourka-Eclipse complex (0 to 2 percent slopes), Hessica-Eclipse association (0 to 5 percent slopes), Mazourka hard substratum-Mazourka-Eclipse complex (0 to 2 percent slopes), Mazourka-Eclipse

complex (0 to 2 percent slopes) – The Eclipse series consists of very deep, somewhat excessively drained soils formed in alluvium from mixed rock sources at elevations between 3,600 to 4,100 feet. Taxonomic classes for this series include sandy, mixed, and thermic Typic Haplocambids. These soils occur on stream terraces and lacustrine terraces with slopes of 0 to 5 percent. Coloration is light brownish gray, dark grayish brown, light gray, and olive brown down to 60 inches deep. The mean annual precipitations are 4 to 6 inches and mean annual temperature is 57 to 61 degrees Fahrenheit. The average frost-free season is about 150 to 225 days. The primary use of this soil is for rangeland and wildlife habitat, and vegetation mainly consists of shadscale, greasewood, bud sagebrush and Indian ricegrass.

Fluvaquentic Endoaquolls Series

Torrifluvents-Fluvaquentics Endoaquolls Complex (0 to 2 percent slopes) – No description available.

Goodale Series

Goodale loamy coarse sand (5 to 15 percent slopes), Goodale-Cartago complex (0 to 2 percent slopes) (2 to 5 percent slopes) (5 to 15 percent slopes), Goodale-Cartago complex (moist, 5 to 15 percent slopes) – The Goodale series consists of very deep, somewhat excessively drained soils that formed in granitic alluvium and in small areas mixed alluvium at elevations between 3,700 to 5,500 feet. Taxonomic classes for this series include sandy-skeletal, mixed, and thermic Xeric. These soils occur on bouldery alluvial fans and fan terraces with slopes of 0 to 15 percent. Coloration is brown, dark brown, and pale brown down to 60 inches deep. The mean annual precipitations are 4 to 10 inches and mean annual temperature is 57 to 61 degrees Fahrenheit. The average frost-free season is about 140 to 200 days. The primary use of this soil is for rangeland and wildlife habitat, and vegetation mainly consists of spiny hopsage, Nevada ephedra, desert needlegrass and Indian ricegrass.

Helendale Series

Helendale-Cajon complex (0 to 5 percent slopes), Helendale-Cajon complex (dry, 0 to 5 percent slopes) – The Helendale series consists of very deep, well drained soils that formed in alluvium from granitoid rocks at elevations between 2,000 to 3,800 feet. Taxonomic classes for this series include Coarse-loamy, mixed, superactive, thermic Typic Haplargids. These soils occur on fan piedmonts, alluvial fans and terraces with slopes of 0 to 9 percent. Coloration is very pale brown, dark yellowish brown, brown, yellowish brown, light yellowish brown, yellow down to 106 inches. The mean annual precipitation is 4 to 8 inches and mean annual and temperature is 63 to 68 degrees Fahrenheit. The average frost-free season is about 280 to 320 days. The primary use is for irrigated pasture, small grains and alfalfa. They are also used for homesites, military operations and recreation. Vegetation mainly consists of creosotebush, bursage, Mormon-tea, Joshua tree, and annual forbs and grasses.

Hesperia Series

Hesperia loamy sand (0 to 2 percent slopes), Hesperia-Cartago complex (0 to 5 percent slopes) – The Hesperia series consists of very deep, well drained soils that formed in alluvium derived primarily from granite and related rocks at elevations between 200 to 4,800 feet. Taxonomic classes for this series include coarse-loamy, mixed, superactive, nonacid, and thermic Xeric Torriorthents. These soils occur on alluvial fans, valley plains and stream terraces with slopes of 0 to 9 percent. Coloration is pale brown and dark brown down to 77 inches deep. The mean annual precipitations are 4 to 9 inches and mean annual temperature is 57 to 69 degrees Fahrenheit. The average frost-free season is about 140 to 310 days. The primary use of this soil is for desert range, and for production of irrigated orchards, row crops,

field crops, grain, hay, pasture and grapes, and vegetation mainly consists of creosotebush in the high desert and sparse annuals in the valley.

Hessica Series

Hessica-Eclipse association (0 to 5 percent slopes), Shondow-Hessica association (0 to 2 percent slopes), Winerton-Hessica complex (0 to 2 percent slopes) – The Hessica series consists of very deep, well drained soils that formed in alluvium from mixed sources at elevations between 3,800 to 4,200 feet. Taxonomic classes for this series include fine-loamy, mixed, superactive, and thermic Xeric Natrargid. These soils occur on stream terraces with slopes of 0 to 2 percent. Coloration is light gray, grayish brown, dark grayish brown, very dark grayish brown, light brownish gray, olive brown, and olive down to 60 inches deep. The mean annual precipitations are 4 to 6 inches and mean annual temperature is 57 to 61 degrees Fahrenheit. The geographic climate is arid with an average frost-free season of about 140 to 180 days. The primary use of this soil is for rangeland and wildlife habitat, and vegetation mainly consists of black greasewood, shadscale and alkali sacaton.

Honova Series

Honova extremey cobbly loamy sand (0 to 9 percent slopes), Honova loamy coarse sand (slightly moist, 9 to 30 percent slopes) – The Honova series consists of shallow and very shallow, well drained soils that formed from hard rhyolitic tuff at elevations between 4,300 and 5,700 feet. Taxonomic classes for this series include ashy, glassy, nonacid, and thermic Lithic Xeric Torriorthents. These soils occur on volcanic tablelands with slopes of 0 to 30 percent. Coloration is pale brown, dark grayish brown, light gray, and brown down to 7 inches deep. The mean annual precipitations are 4 to 10 inches and mean annual temperature is 57 to 61 degrees Fahrenheit. The average frost-free season is about 140 to 175 days. The primary use of this soil is for grazing and wildlife habitat, and vegetation mainly consists of Nevada ephedra, blackbrush, spiny hopsage, needleleaf rabbitbrush and desert needlegrass.

Inyo Series

Inyo gravelly loamy coarse sand (0 to 5 percent slopes), Inyo sand (0 to 9 percent slopes), Inyo-Poleta complex (0 to 2 percent slopes), Inyo-Westguard association (0 to 2 percent slopes) – The Inyo series consists of very deep, excessively drained soils formed in mixed alluvium and windblown deposits at elevations between 3,800 and 5,000 feet. Taxonomic classes for this series include mixed and thermic Xeric Torripsamments. These soils occur on alluvial fans, fan terraces, and stabilized dunes on stream terraces with slopes of 0 to 15 percent. Coloration is pale brown, olive brown, brown, and dark brown down to 60 inches deep. The mean annual precipitations are 4 to 6 inches and mean annual temperature is 57 to 61 degrees Fahrenheit. The geographic climate is arid with an average frost-free season of about 140 to 220 days. The primary use of this soil is for rangeland and wildlife habitat, and vegetation mainly consists of shadscale, whitebursage and desert needlegrass.

Lithic Haplargids

Lithic Torriorthents-Lithic Haplargids-Rock outcrop complex (30 to 75 percent slopes) – No description available.

Lithic Torriorthents

Lithic Torriorthents-Lithic Haplargids-Rock outcrop complex (30 to 75 percent slopes) – No description available.

Lubkin Series

Lubkin-Tinemaha complex (2 to 5 percent slopes) (5 to 15 percent slopes), Lubkin-Tinemaha complex (moist, 5 to 15 percent slopes), Dehy-Conway-Lubkin association, (0 to 9 percent slopes) – The Lubkin series consists of very deep, well drained soils formed in alluvium from dominantly granitic sources at elevations between 3,800 and 5,400 feet. Taxonomic classes for this series include loamy-skeletal, mixed, superactive, and thermic Xeric Haplargids. These soils occur on alluvial fans and fan terraces with slopes of 2 to 15 percent. Coloration is light yellowish brown, dark yellowish brown, light gray, and olive brown down to 85 inches deep. The mean annual precipitations are 6 to 10 inches and mean annual temperature is 55 to 61 degrees Fahrenheit. The geographic climate is arid with an average frost-free season of about 150 to 200 days. The primary use of this soil is for rangeland and wildlife habitat, and vegetation mainly consists of shadscale, allscale saltbush, bud sagebrush, white bursage and desert needlegrass.

Lucerne Series

Lucerne gravelly loamy sand (2 to 5 percent slopes), Lucerne loamy fine sand (0 to 2 percent slopes) – The Lucerne series consists of very deep, well drained soils that formed in alluvium from dominantly granitic sources at elevations between 2,900 and 4,800 feet. Taxonomic classes for this series include coarse-loamy, mixed, superactive, and thermic Xeric Haplargids. These soils occur on alluvial fans, fan terraces, and terraces with slopes of 0 to 15 percent. Coloration is pale brown, dark brown, light yellowish brown, dark yellowish brown, brown, reddish yellow, and strong brown down to 76 inches deep. The mean annual precipitations are 4 to 9 inches and mean annual temperature is 57 to 63 degrees Fahrenheit. The geographic climate is arid with an average frost-free season of about 140 to 240 days. The primary use of this soil is for homesites and recreation, and vegetation mainly consists of Utah juniper, scattered Joshua, annual grasses and forbs, and perennial grasses.

Manzanar Series

Manzanar silt loam (0 to 2 percent slopes), Manzanar-Westguard association (0 to 2 percent slopes) – The Manzanar series consists of very deep, somewhat poorly drained soils formed in alluvium and lacustrine sediments from mixed sources at elevations between 3,700 and 4,000 feet. Taxonomic classes for this series include fine-loamy, mixed, superactive, and mesic Aquic Haplargids. These soils occur on stream terraces and lacustrine terraces with slopes of 0 to 2 percent. Coloration is light brownish gray, very dark grayish brown, light gray, dark grayish brown, olive gray, dark gray, and gray down to 62 inches deep. The mean annual precipitations are 4 to 6 inches and mean annual temperature is 57 to 61 degrees Fahrenheit. The water table is at 40 60 inches deep, which occur from February 1 to May1, and the average frost-free season is about 150 to 220 days. The primary use of this soil is for rangeland and wildlife habitat, and vegetation mainly consists of inland saltgrass, alkali sacaton, baltic rush and other saline-sodic tolerant plants.

Mazourka Series

Cajon-Mazourka complex (0 to 2 percent slopes), Cajon-Mazourka-Eclipse complex (0 to 2 percent slopes), Mazourka hard substratum-Mazourka-Eclipse complex (0 to 2 percent slopes), Mazourka-Eclipse complex (0 to 2 percent slopes), Mazourka-Slickspots-Cajon complex (0 to 2 percent slopes) – The Mazourka series consists of deep and very deep, well and moderately well drained soils formed in alluvium from mixed rock sources at elevations between 3,600 to 4,200 feet. Taxonomic classes for this series include coarse-loamy, mixed, superactive, and thermic Typic Natrargids. These soils occur on stream terraces, lacustrine terraces, fan terraces and alluvial fans with slopes of 0 to 5 percent. Coloration is light brownish gray, dark grayish brown, light gray, grayish brown, and light olive gray down to 60 inches deep. The mean annual precipitations are 3 to 6 inches and mean annual temperature is 57 to 61 degrees Fahrenheit. The average frost-free season is about 140 to 230 days. The primary use of this soil is for rangeland, watershed and wildlife habitat, and vegetation mainly consists of shadscale, black greasewood, bud sagebrush, kochia, allscale, dalea and Indian ricegrass.

Morey Series

Morey family-Winnedumah-Rindge family complex (0 to 2 percent slopes) – The Morey series consists of very deep, somewhat poorly drained, slowly permeable soils on uplands formed in silty sediments of Pleistocene age at elevations between 10 and 35 feet. Taxonomic classes for this series include fine-silty, siliceous, superactive, and hyperthermic Oxyaquic Argiudolls. These soils occur on stream terraces and lacustrine terraces with slopes of 0 to 1 percent. Coloration is very dark gray, brown, grayish brown, yellowish brown, brownish yellow, light yellowish brown, gray, and light brownish gray down to 80 inches deep. The mean annual precipitations are 50 to 60 inches and mean annual temperature is 70 to 72 degrees Fahrenheit. The average frost-free season is about 250 to 270 days. The primary use of this soil is for pasture or rice production, and native vegetation mainly consists of little bluestem, indiangrass, brownseed paspalum, eastern gamagrass, big bluestem, Florida paspalum, and switchgrass. Vegetation in improved pastures consist of bahiagrass and in some areas, pine and hardwood trees are present.

Muranch Series

Muranch family, 0 to 2 percent slopes – The Muranch series consists of moderately deep, well drained soils formed in material weathered from basalt at elevations between 2,800 and 4,100 feet. Taxonomic classes for this series include loamy-skeletal, mixed, superactive, and thermic Aridic Haploxerolls. These soils occur on hills and mountains with slopes of 30 to 75 percent. Coloration is brown, dark brown, light yellowish brown, dark yellowish brown, very dark gray, and black down to 40 inches deep. The mean annual precipitations are 8 to 10 inches and mean annual temperature is 58 to 62 degrees Fahrenheit. The geographic climate is semiarid with an average frost-free season of about 175 to 200 days. The primary use of this soil is for livestock grazing, and vegetation mainly consists of red brome, annual fescue, and narrowleaf goldenbush.

Neuralia Series

Neuralia-Timosea-Typic Argidurids complex (2 to 15 percent slopes, Timosea-Neuralia Complex (2 to 9 percent slopes) Timosea-Neuralia complex (warm, 2 to 9 percent slopes) – The Neuralia series consists of very deep, well drained soils formed in alluvium from mixed sources at elevations between 2,300 and 4,200 feet. Taxonomic classes for this series include fine-loamy, mixed, superactive, and thermic Typic Haplargids. These soils occur on alluvial fans, fan terraces, and plains with slopes of 0 to 15 percent.

Coloration is yellowish brown, brown, dark brown, strong brown, yellowish brown, and light brown down to 55 inches deep. The mean annual precipitations are 4 to 6 inches and mean annual temperature is 57 to 62 degrees Fahrenheit. The geographic climate is arid with an average frost-free season of about 200 to 250 days. The primary use of this soil is for rangeland, recreation, and wildlife habitat, and vegetation mainly consists of bursage, creosotebush, and scattered annual grasses.

Numu Series

Numu loam (0 to 2 percent slopes) – The Numu series consists of very deep, somewhat poorly drained soils that formed in alluvium from mixed sources, and lacustrine sediments at elevations between 3,750 and 3,900 feet. Taxonomic classes for this series include fine-loamy, mixed, superactive, and thermic Durinodic Xeric Haplargids. These soils occur on stream and lacustrine terraces with slopes of 0 to 2 percent. Coloration is brown, dark brown, pale brown, light gray, dark grayish brown, dark gray, black, light olive gray, and olive gray down to 72 inches deep. The mean annual precipitations are 4 to 6 inches and mean annual temperature is 59 to 61 degrees Fahrenheit. The average frost-free season is about 150 to 225 days. The primary use of this soil is for rangeland and wildlife habitat, and vegetation mainly consists of inland saltgrass, alkali sacaton, black greasewood and shadscale.

Pits-Dumps

Pits-Dumps complex (0 to 50 percent slopes) – No description available.

Pokonahbe Series

Pokonahbe loamy fine sand (0 to 2 percent slopes), Pokonahbe-Rindge family association (0 to 5 percent slopes) – The Pokonahbe series consists of very deep, somewhat poorly drained soils formed in alluvium from mixed rock sources and lacustrine sediments at elevations between 3,680 and 4,200 feet. Taxonomic classes for this series include fine-loamy, mixed, superactive, and thermic Xeric Haplargids. These soils occur on stream terraces and lacustrine terraces with slopes of 0 to 5 percent. Coloration is light brownish gray, dark grayish brown, olive brown, light yellowish brown, light gray, olive, olive gray, pale yellow, and medium distinct olive down to 66 inches deep. The mean annual precipitations are 4 to 6 inches and mean annual temperature is 57 to 61 degrees Fahrenheit. The water table is at 40 to 60 inches deep and occurs from March 1 to June 1. The average frost-free season is about 140 to 225 days. The primary use of this soil is for rangeland, irrigated pasture, water spreading, and wildlife habitat, and vegetation in nonirrigated areas mainly consists of alkali sacaton, black greasewood, rabbitbrush, inland saltgrass and shadscale saltbush.

Poleta Series

Inyo-Poleta complex (0 to 2 percent slopes) – The Poleta series consists of moderately deep, well drained soils that formed in mixed alluvium at elevations between 3,680 and 4,200 feet. Taxonomic classes for this series include coarse-loamy, mixed, superactive, and thermic Cambidic Haplodurids. These soils occur on stream terraces with slopes of 0 to 2 percent. Coloration is light brownish gray, grayish brown, light yellowish brown, olive brown, light olive gray, and olive down to 38 inches deep. The mean annual precipitations are 4 to 6 inches and mean annual temperature is 57 to 61 degrees Fahrenheit. The geographic climate is arid with an average frost-free season of about 140 to 225 days. The primary use of this soil is for rangeland and wildlife habitat, and vegetation mainly consists of shadscale, bud sagebrush, spiny hopsage and Indian ricegrass.

Rock

Lithic Torriorthents-Lithic Haplargids-Rock outcrop complex (30 to 75 percent slopes) – No description available.

Rienhakel Series

Rienhakel sand (0 to 2 percent slopes), Westgurad-Rienhakel Association (0 to 2 percent slopes) – The Rienhakel series consists of very deep, somewhat poorly drained soils formed in alluvium from mixed sources at elevations between 3,700 and 4,100 feet. Taxonomic classes for this series include coarse-loamy, mixed, superactive, and thermic Xeric Natrargids. These soils occur on stream and lake terraces with slopes of 0 to 2 percent. Coloration is light gray, olive gray, light brownish gray, olive brown, dark grayish brown, yellowish brown, olive brown, pale olive, olive, and olive gray down to 60 inches deep. The mean annual precipitations are 4 to 6 inches and mean annual temperature is 57 to 61 degrees Fahrenheit. The water table is at 42 to 60 inches deep and occurs from March 1 to June 1. The average frost-free season is about 140 to 220 days. The primary use of this soil is for rangeland and wildlife habitat, and vegetation mainly consists of black greasewood, shadscale, alkali sacaton inland saltgrass and rabbitbrush.

Rindge Series

Morey family-Winnedumah-Rindge family complex (0 to 2 percent slopes), Pokonahbe-Rindge family association (0 to 5 percent slopes) – The Rindge series consists of very deep, very poorly drained organic soils that formed in fresh water marshes, sloughs and drainage channels from mixed decomposed reeds, tules and alluvium at elevations between 5 and 20 feet. Taxonomic classes for this series include euic and thermic Typic Haplosaprists. These soils occur on fresh water marshes, sloughs, river channels and deltas with slopes of 0 to 2 percent. Coloration is black, very dark gray, yellowish brown, very dark brown, and very dark gray down to 60 inches deep. The mean annual precipitations are 12 to 20 inches and mean annual temperature is 57 to 60 degrees Fahrenheit. The water table is at 36 inches deepduring the growing season and at or near the surface during the winter. The average frost-free season is about 250 to 310 days. The primary use of this soil is for cropland, and vegetation mainly consists of asparagus, potatoes, tomatoes, corn, wheat and barley. In some harvested areas, waterfowl hunting occurs in inundated fields. The soil is idle or used for pasture near the coast.

Sabies Series

Sabies-Yaney complex (0 to 2 percent slopes) – The Sabies series consists of very deep, well drained soils that formed in volcanic ash and alluvium derived from mixed sources at elevations between 4,000 and 4,200 feet. Taxonomic classes for this series include ashy, glassy, calcareous, and thermic Vitrandic Torriorthents. These soils occur on stream terraces and fan remnants with slopes of 0 to 2 percent. Coloration is light gray, light brownish gray, pale yellow, and light yellowish brown down to 60 inches deep. The mean annual precipitations are 4 to 6 inches and mean annual temperature is 57 to 61 degrees Fahrenheit. The geographic climate is arid with an average frost-free season of about 140 to 180 days. The primary use of this soil is for rangeland and wildlife habitat, and vegetation mainly consists of black greasewood, shadscale, and Indian ricegrass.

Seaman Series

Seaman-Yellowrock complex (2 to 5 percent slopes), Yellowrock-Seaman Complex (2 to 5 percent slopes) – The Seaman series consists of deep, well drained soils that formed in mixed alluvium with a component of volcanic ash or pyroclastic materials at elevations between 3,000 and 3,500 feet. Taxonomic classes for this series include coarse-loamy, mixed, superactive, calcareous, and thermic Typic Torriorthents. These soils occur on fan skirts, and on inset fans and fan aprons of the fan piedmont with slopes of 0 to 8 percent. Coloration is light brownish gray, dark grayish brown, light gray, and brown down to 60 inches deep. The mean annual precipitations are 3 to 8 inches and mean annual temperature is 57 to 62 degrees Fahrenheit. The seasonal water table is 3 to 6 feet deep and the average frost-free season of about 170 to 220 days. The primary use of this soil is for irrigated argiculture, rangeland and wildlife habitat, and vegetation mainly consists of creosotebush, white bursage, fourwing saltbush, big saltbush, shadscale, white burrobrush, and big galleta.

Shabbell Series

Shabbell sandy loam (0 to 2 percent slopes) – The Shabbell series consists of very deep, well drained, soils formed in alluvium from mixed rock sources at elevations between 3,700 and 4,200 feet. Taxonomic classes for this series include coarse-loamy, mixed, superactive, and thermic Aridic Argixerolls. These soils occur on stream and fan terraces with slopes of 0 to 2 percent. Coloration is grayish brown, very dark grayish brown, pale brown, light yellowish brown, brown, dark grayish brown, dark yellowish brown, and light yellowish brown down to 60 inches deep. The mean annual precipitations are 4 to 6 inches and mean annual temperature is 55 to 65 degrees Fahrenheit. The average frost-free season is about 140 to 220 days. The primary use of this soil is for irrigated cropland, hay and pasture, homesite development and rangeland, and vegetation mainly consists of Nevada saltbrush, Inland saltgrass and Fivehook bassia.

Shondow Series

Shondow loam (0 to 2 percent slopes), Shondow loam, drained (0 to 2 percent slopes), Shondow-Hessica association (0 to 2 percent slopes) – The Shondow series consists of very deep, somewhat poorly or partially drained soils formed in mixed alluvium at elevations between 3,600 and 4,200 feet. Taxonomic classes for this series include fine-loamy, mixed, superactive, and thermic Aquic Argixerolls. These soils occur on stream terraces and fan terraces with slopes of 0 to 2 percent. Coloration is grayish brown, very dark gray, very dark grayish brown, light brownish gray, dark grayish brown, prominent dark gray, light olive gray, olive, and light gray down to 60 inches deep. The mean annual precipitations are 4 to 7 inches and mean annual temperature is 57 to 64 degrees Fahrenheit. The water table is at 24 to 36 inches deep from March 1 to June 1, and drained phases of this soil are moderately well drained with a water table at 60 to 72 inches deep. The average frost-free season is about 140 to 225 days. The primary use of this soil is for rangeland and wildlife habitat, and vegetation mainly consists of alkali sacaton, inland saltgrass and watersage saltbush.

Slickspots Series

Mazourka-Slickspots-Cajon complex (0 to 2 percent slopes) – No description available.

Spainhower Series

Spainhower cobbly sandy loam, dry, 5 to 15 percent slopes– The Spainhower series consists of very deep, well drained soils formed in alluvium from granitic rock sources at elevations between 3,800 and 5,000 feet. Taxonomic classes for this series include clayey-skeletal, mixed, superactive, and thermic Xeric Haplargids. These soils occur on fan terraces with slopes of 5 to 15 percent. Coloration is pale brown, dark brown, light yellowish brown, and dark yellowish brown down to 60 inches deep. The mean annual precipitations are 5 to 9 inches and mean annual temperature is 54 to 57 degrees Fahrenheit. The average frost-free season is about 150 to 200 days. The primary use of this soil is for rangeland and wildlife habitat, and vegetation mainly consists of Nevada ephedra, spiny hopsage, desert needlegrass, and blackbrush.

Taboose Series

Taboose-Lava Flow Complex (5 to 30 percent slopes) – The Taboose series consists of very deep, well drained soils formed in eolian volcanic ash over basalt cinders at elevations between 3,800 and 5,200 feet. Taxonomic classes for this series include ashy-skeletal, glassy, nonacid and thermic Vitrandic Torriorthents. These soils occur on vegetated areas of recent basalt lave flows containing many cinder cones with slopes of 5 to 30 percent. Coloration is pale brown, brown, dark brown and yellowish brown down to 60 inches deep. The mean annual precipitations are 4 to 8 inches and mean annual temperature is 54 to 56 degrees Fahrenheit and the average frost-free season of about 175 to 200 days. The primary use of this soil is for livestock grazing and wildlife habitat, and vegetation mainly consists of Nevada ephedra, spiny hopsage, desert needlegrass, Fremont's dalea, bud sagebrush and shadscale.

Timosea Series

Neuralia-Timosea-Typic Argidurids complex (2 to 15 percent slopes), Timosea-Neuralia Complex (2 to 9 percent slopes) Timosea-Neuralia complex (warm, 2 to 9 percent slopes) – The Timosea series consists of very deep, well drained soils formed in alluvium from dominantly granitic sources at elevations between 3,700 and 4,200 feet. Taxonomic classes for this series include loamy-skeletal, mixed, superactive, and thermic Typic Haplargids. These soils occur on fan terraces with slopes of 2 to 15 percent. Coloration is light yellowish brown, dark yellowish brown, and brownish yellow down to 60 inches deep. The mean annual precipitations are 5 to 6 inches and mean annual temperature is 57 to 62 degrees Fahrenheit. The geographic climate is arid with an average frost-free season of about 215 to 225 days. The primary use of this soil is for rangeland and wildlife habitat, and vegetation mainly consists of desert needlegrass, spiny hopsage, white bursage, blackbrush and creosotebush.

Tinemaha Series

Lubkin-Tinemaha complex (2 to 5 percent slopes) (5 to 15 percent slopes), Lubkin-Tinemaha complex (moist, 5 to 15 percent slopes), Tinemaha gravelly loamy coarse sand (5 to 15 percent slopes), Tinemaha gravelly loamy coarse sand (moist, 5 to 15 percent slopes) – The Tinemaha series consists of very deep, well drained soils that formed in alluvium from dominantly granitic sources at elevations between 4,000 and 5,400 feet. Taxonomic classes for this series include loamy-skeletal, mixed, superactive, and thermic Xeric Haplargids. These soils occur on alluvial fans and fan terraces with slopes of 0 to 15 percent. Coloration is pale brown, brown, dark brown, and yellowish brown down to 60 inches deep. The mean annual precipitations are 4 to 10 inches and mean annual temperature is 55 to 61 degrees Fahrenheit. The geographic climate is arid with an average frost-free season of about 140 to 200 days. The primary

use of this soil is for rangeland and wildlife habitat, and vegetation mainly consists of spiny hopsage, Nevada ephedra, Cooper goldenbush, California buckwheat and desert needlegrass.

Toquerville Series

Whitewolf-Toquerville families association(15 to 50 percent slopes) - The Toquerville series consists of shallow to bedrock soils that were formed in deposits of wind blown sand weathered from sandstone. These soils are on desert slopes. Slopes are 2 to 20 percent. The mean annual temperature is about 61 degrees Fahrenheit, the average annual precipitation is about 9 inches. Taxonomic classes in this series include mixed and thermic lithic Torripsamments. These soils occur on desert slopes at elevations of 2,700 to 4,000 feet with slopes from 2 to 20 percent. These soils formed in deposits of wind blown sand weathered from sandstone. The mean annual temperature is 57 to 65 degrees Fahrenheit, and the mean summer temperature is 80 to 84 degrees Fahrenheit. The average annual precipitation is 8 to 11 inches. The primary use of this soil is rangeland, and vegetation often consists of blackbrush, Indian ricegrass, snakeweed, Mormon tea, and cholla cactus.

Torrifluvents Series

Torrifluvents (0 to 2 percent slopes), Torrifluvents-Fluvaquentics Endoaquolls Complex (0 to 2 percent slopes) – No description available.

Typic Argidurids Series

Neuralia-Timosea-Typic Argidurids complex (2 to 15 percent slopes) – No description available.

Typic Psammaquents Series

Typic Psammaquents (0 to 2 percent slopes) – No description available.

Typic Torriorthents Series

Cajon-Typic Torriorthents complex (0 to 5 percent slopes), Typic Torriorthents-Yaney Complex (0 to 2 percent slopes) – No description available.

Westguard Series

Inyo-Westguard association (0 to 2 percent slopes), Manzanar-Westguard association (0 to 2 percent slopes), Westgurad-Rienhakel Association (0 to 2 percent slopes) – The Westguard series consists of very deep, moderately well drained soils formed in alluvium from mixed sources at elevations between 3,800 and 4,100 feet. Taxonomic classes for this series include coarse-loamy, mixed, superactive, and thermic Durinodic Haplargids. These soils occur on stream terraces with slopes of 0 to 2 percent. Coloration is light gray, light brownish gray, light olive gray, olive, pale olive, and olive gray down to 60 inches deep. The mean annual precipitations are 4 to 6 inches and mean annual temperature is 57 to 61 degrees Fahrenheit. The geographic climate is arid with an average frost-free season of about 140 to 180 days. The primary use of this soil is for rangeland and wildlife habitat, and vegetation mainly consists of shadscale, black greasewood, alkali sacaton and inland saltgrass.

Whitewolf Series

Whitewolf-Toquerville families association (15 to 50 percent slopes) - The Whitewolf series consists of deep, somewhat excessively drained soils that formed in mixed alluvium. Whitewolf soils are on flood plains and alluvial fans and have slopes of 0 to 5 percent. Taxonomic classes for this series include mixed and thermic xeric Torripsamments. This series occurs on alluvial flood plains and fans. The soils formed from mixed alluvial materials, primarily granitic. Slope gradients are 0 to 5 percent, and elevations range from 400 to 4,000 feet. The climate is semiarid with hot, dry summers, and moist, mild winters. Average annual precipitation is 6 to 9 inches. The mean annual temperature is 60 degrees to 70 degrees F. The soils are somewhat excessively drained, with slow runoff and rapid permeability. The primary use for this soil is production of irrigated field crops, row crops, grapes, and orchards, but the soils tend to be droughty and need frequent irrigation. In the few areas where natural vegetation occurs, there are annual grasses.

Winerton Series

Winerton-Hessica complex (0 to 2 percent slopes) – The Winerton series consists of moderately deep, moderately well drained soils that formed in finely sorted alluvium from mixed sources at elevations between 3,800 and 4,100 feet. Taxonomic classes for this series include fine-loamy, mixed, superactive and thermic Agric Petrocalcids. These soils occur on lacustrine terraces and alluvial plains with slopes of 0 to 2 percent. Coloration is light gray, light brownish gray, white, pinkish gray, brown, light greenish gray and greenish gray down to 60 inches deep. The mean annual precipitations are 4 to 6 inches and mean annual temperature is 57 to 61 degrees Fahrenheit. The geographic climate is arid with an average frost-free season of about 140 to 225 days. The primary use of this soil is for wildlife habitat and rangeland, and vegetation is alkali sacaton, primarily shadscale, black greasewood, and inland saltgrass.

Winnedumah Series

Morey family-Winnedumah-Rindge family complex (0 to 2 percent slopes), Winnedumah fine sandy loam (0 to 2 percent slopes) Winnedumah silt loam (0 to 2 percent slopes) – The Winnedumah series consists of very deep, somewhat poorly drained soils formed in alluvium and lacustrine sediments from mixed sources at elevations between 3,650 and 4,300 feet. Taxonomic classes for this series include fine-loamy, mixed, superactive, and thermic Xeric Haplargids. These soils occur on stream terraces, lacustrine terraces and fan terraces with slopes of 0 to 2 percent. Coloration is light gray, brown, grayish brown, light brownish gray, dark grayish brown, pale yellow, olive, strong brown, reddish brown, dark yellowish brown, dark reddish brown, and black down to 70 inches deep. The mean annual precipitations are 4 to 6 inches and mean annual temperature is 57 to 61 degrees Fahrenheit. The geographic climate is arid with an average frost-free season of about 140 to 225 days. The primary use of this soil is for rangeland and wildlife habitat, and vegetation mainly consists of Nevada saltbush, alkali sacaton, black greasewood and other saline-sodic tolerant plants.

Xeric Argidurids Series

Xeric Argidurides (2 to 9 percent slopes) – No description available.

Xerofluvents

Xerofluvents (0 to 5 percent slopes) – No description available.

Yaney Series

Sabies-Yaney complex (0 to 2 percent slopes), Yaney-Yaney Loam Association (0 to 2 percent slopes, Typic Torriorthents-Yaney Complex (0 to 2 percent slopes) – The Yaney series consists of very deep, well drained soils formed in alluvium and volcanic ash derived from mixed sources at elevations between 4,000 and 4,200 feet. Taxonomic classes for this series include ashy, glassy, calcaerous and thermic Vitrandic Torrifluvents. These soils occur on stream terraces with slopes of 0 to 2 percent. Coloration is light gray and yellowish brown down to 26 inches; very pale brown, light yellowish brown, strong brown and black from 26 inches down to 100 inches deep. The mean annual precipitations are 4 to 6 inches and mean annual temperature is 57 to 61 degrees Fahrenheit. The geographic climate is arid with an average frost-free season of about 140 to 180 days. The primary use of this soil is for rangeland and wildlife habitat, and vegetation mainly consists of shadescale, black greasewood and Indian ricegrass. This soils type is susceptible to rare flooding during very brief periods year-round.

Yellowrock Series

Seaman-Yellowrock complex (2 to 5 percent slopes), Yellowrock-Seaman Complex (2 to 5 percent slopes) – The Yellowrock series consists of very deep, somewhat excessively drained, sandy soils formed in alluvium from mixed sources and in some areas granitic sources at elevations between 3,000 and 3,500 feet. Taxonomic classes for this series include sandy, mixed, and thermic Typic Torriorthents. These soils occur on alluvial fans, fan terraces and flood plains with slopes of 0 to 15 percent. Coloration is pale brown, brown, light brownish gray, grayish brown, and dark brown down to 60 inches deep. The mean annual precipitations are 4 to 6 inches and mean annual temperature is 55 to 65 degrees Fahrenheit. The average frost-free season is about 150 to 300 days. The primary use of this soil is for wildlife habitat and recreation land, and natural vegetation mainly consists of creotosebush, white bursage, and desert holly. Alkali areas have vegetation consisting of allscale saltbush, mojave seablite, and shadscale.

Yermo Series

Yermo stony-Yermo Complex (5 to 15 percent slopes), Yermo stony-Yermo Complex (cool, 5 to 15 percent slopes) Yermo very gravelly sandy loam (2 to 5 percent slope)– The Yermo series consists of deep, well drained soils formed in mixed, moderately-coarse textured, calcareous, gravelly or cobbly alluvium sources at elevations between 2,300 and 4,200 feet. Taxonomic classes for this series include loamy-skeletal, superactive, calcareous, mixed and thermic Typic Torriorthents. These soils occur on broad alluvial fans and older, uplifted or faulted uplands or valley floors with slopes of 0 to 50 percent. Coloration is pale brown, dark brown, very pale brown and light gray down to 60 inches deep. The mean annual precipitations are 4 to 6 inches and mean annual temperature is 57 to 64 degrees Fahrenheit. The geographic climate is arid with an average frost-free season of about 210 to 255 days. The primary use of this soil is for wildlife habitat and homesites, and vegetation mainly consists of creosote bush, white bursage, yucca, Joshua trees and annual grasses and forbs.

1.4. MONO COUNTY

Alamedawell Series

Alamedawell loamy sand (0 to 2 percent slopes), Alamedawell-Conway-Xerofluvents complex (0 to 4 percent slopes), Alamedawell-Orecart complex (0 to 4 percent slopes), Alamedawell-Orecart complex (4 to 15 percent slopes) – The Alamedawell series consists of very deep, somewhat excessively drained soils that formed in alluvium and eolian sand over lacustrine deposits derived from volcanic ash at elevations

between 6,400 to 7,100 feet. Taxonomic classes for this series include ashy, glassy, calcareous and mesic Vitrandic Torriorthents. These soils occur on lake terraces with slopes of 0 to 15 percent. Coloration is light gray, grayish brown, light brownish gray, light olive gray and olive gray down to 60 inches deep. The mean annual precipitations are 8 to 10 inches and mean annual temperature is 45 to 50 degrees Fahrenheit. The average frost-free season is about 100 to 135 days. The primary use of this soil is for livestock grazing and wildlife habitat, and vegetation mainly consists of big sagebrush, horsebrush, black greasewood, rubber rabbitbrush, annual forbs, Indian ricegrass, needleandthread and inland saltgrass.

Aquents

Conway-Aquents-Watterson complex (0 to 2 percent slopes) – No description available.

Aquic Torriorthents

Aquic Torriorthents-Aquic Torripsamments Complex (0 to 2 percent slopes) – No description available.

Aquic Torripsamments

Aquic Torriorthents-Aquic Torripsamments Complex (0 to 2 percent slopes) – No description available.

Aspetill Series

Aspetill Association – The Aspetill series consists of very deep, well drained soils that formed in till derived from igneous and metamorphic rocks at elevations between 7,000 to 9,200 feet. Taxonomic classes for this series include loamy-skeletal, mixed and superactive Pachic Argicryolls. These soils occur on moraines with slopes of 4 to 30 percent. Coloration is very dark grayish brown, very dark brown, dark grayish brown, brown, grayish brown, light yellowish brown, dark yellowish brown and pale brown down to 60 inches deep. The mean annual precipitations are 20 to 45 inches and mean annual temperature 36 to 45 degrees Fahrenheit. Endosaturation is present with an apparent seasonal high water table between 2.0 and 3.3 feet during spring months in some years. The average frost-free season is about 30 to 70 days. The primary use of this soil is for for forest land, recreation, watershed and wildlife habitat, and vegetation mainly consists of a forest canopy of quaking aspen with an understory of slender wheatgrass, mountain brome, mountain big sagebrush and snowberry.

Avalmount Series

Avalmount very gravelly fine sandy loam(50 to 75 percent slopes), Vitrandic Torripsamments-Avalmount-Rock outcrop complex, (50 to 75 percent slopes), Rovana-Taboose-Ulymeyer association – The Avalmount series consists of very deep, well drained soils at elevations between 4,800 to 6,600 feet. Taxonomic classes for this series include ashy-skeletal, glassy amd mesic Vitrixerandic Haplocambids. These soils occur on lava flows and cinder cones with slopes of 5 to 30 percent. Coloration is dark brown and yellowish brown down to 60 inches deep. The mean annual precipitations are 8 to 10 inches and mean annual temperatures are 50 to 54 degrees Fahrenheit. The average frost-free season is about 140 to 160 days. The primary uses of this soil are for livestock grazing and wildlife habitat, and the vegetation is mainly big sagebrush, desert needlegrass and Nevada ephedra.

Bairs Series

Bairs bouldery loamy coarse sand, moist, (5 to 15 percent slopes), Bairs-Kilburn family complex (8 to 30 percent slopes) – The Bairs series consists of very deep, well drained soils that formed in granitic

alluvium at elevations between 5,100 to 6,500 feet. Taxonomic classes for this series include loamy-skeletal, mixed, superactive and mesic Xeric Haplargids. These soils occur on bouldery or stony alluvial fans and fan terraces with slopes of 5 to 30 percent. Coloration is grayish brown, very dark grayish brown, brown, dark brown, yellowish brown, dark yellowish brown, very pale brown and yellowish brown down to 60 inches deep. The mean annual precipitations are 6 to 10 inches and mean annual temperature is 50 to 57 degrees Fahrenheit. The average frost-free season is about 115 to 150 days. The primary use of this soil is for rangeland, wildlife habitat and recreation, and the vegetation mainly consists of big sagebrush, desert bitterbrush, Nevada ephedra and desert needlegrass.

Barasco Series

Barasco loamy fine sand (0 to 2 percent slopes)– The Barasco series consists of very deep, well drained soils that formed in alluvium derived from mixed sources at elevations between 5,300 to 5,600 feet. Taxonomic classes for this series include fine-loamy, mixed, superactive and mesic Xeric Paleargids. These soils occur on valley floors with slopes of 0 to 2 percent. Coloration is pale brown, brown, white and light gray down to 60 inches deep. The mean annual precipitations are 8 to 10 inches and mean annual temperature is 50 to 55 degrees Fahrenheit. The average frost-free season is about 125 to 150 days. The primary use of this soil is for used for livestock grazing, hayland and wildlife habitat, and vegetation mainly consists of shadscale, Wyoming big sagebrush, and Indian ricegrass.

Berent Series

Berent-Glenbrook-Nanamkin families association (30 to 50 percent slopes) – The Berent series consists of very deep, somewhat excessively drained, rapidly or very rapidly permeable soils at elevations between 4,500 to 5,800 feet. Taxonomic classes for this series include mixed and mesic Xeric Torripsamments. These soils are formed in eolian sands derived from lacustrine deposits on stabilized sand dunes with slopes of 0 to 30 percent. Coloration is pale brown, dark grayish brown, brown, light yellowish brown and dark yellowish brown down to 60 inches deep. The mean annual precipitations are 8 to 12 inches and mean annual temperature is 45 to 51 degrees Fahrenheit. The average frost-free season is about 100 to 150 days. The primary uses of this soil are for rangeland and wildlife habitat, and vegetation mainly consists of overstory of Utah juniper and an understory of needleandthread, Indian ricegrass, scurfpea and bottlebrush squirreltail. In southwest Utah the present vegetation includes rubber rabbitbrush, squawbush and fourwing saltbush.

Biglake Series

Biglake-Chesaw families-Rock outcrop complex (30 to 50 percent slopes) – The Biglake series consists of very deep, excessively drained soils that formed in alluvium or colluvium at elevations between 2,500 to 4,500 feet. Taxonomic classes for this series include sandy-skeletal, mixed and frigid Typic Haploxerolls. These soils occur on stream terraces and hills with slopes of 0 to 30 percent. Coloration is dark grayish brown, very dark brown, brown and light brownish gray down to 60 inches deep. The mean annual precipitations are 14 to 19 inches, the mean annual temperature is 42 to 46 degrees Fahrenheitand the average frost-free season is about 80 to 120 days. The primary use of this soil is for rangeland and irrigated cropland, and potential native vegetation mainly consists of Idaho fescue, bluebunch wheatgrass, Sandberg bluegrass, prairie junegrass, forbs and shrubs.

Blindspring Series

Blindspring gravely loamy sand (0 to 5 percent slopes) – The Blindspring series consists of very deep, somewhat excessively drained soils that formed in ashy alluvium at elevations between 4,300 to 5,500 feet. Taxonomic classes for this series include ashy, glassy, nonacid and thermic Vitrandic Torripsamments. These soils occur on nearly level to gently sloping valley floors near upland volcanic formations with slopes of 0 to 5 percent. Coloration is very pale brown and brown down to 60 inches deep. The mean annual precipitations are 5 to 8 inches and mean annual temperature is 57 to 62 degrees Fahrenheit. The average frost-free season is about 140 to 180 days. The primary use of this soil is for used for grazing and wildlife habitat, and the vegetation mainly consists of fourwing saltbush, shadscale, Fremont dalea, Indian ricegrass, and desert needlegrass.

Brantel Series

Brantel family-rock outcrop complex (0 to 30 percent slopes), Brantel gravely coarse sand (2 to 8 percent slopes), Montezuma-Brantel complex, dry, (2 to 9 percent slopes) – The Brantel series consists of very deep, and excessively drained soils that formed in volcanic ash at elevations between 5,300 to 7,600 feet. Taxonomic classes for this series include ashy, glassy, nonacid and mesic Vitrandic Torripsamments. These soils occur on valley floors, lake terraces, fan terraces and alluvial fans, volcanic flows and tablelands, inset fans on hills, mountainous uplands and around cinder cones with slopes of 0 to 15 percent. Coloration is light gray, brown and pale brown down to 60 inches deep. The mean annual precipitations are 6 to 12 inches and mean annual temperature is 43 to 53 degrees Fahrenheit. The average frost-free season is about 110 to 150 days. The primary use of this soil is for grazing, wildlife habitat and recreation, and the vegetation mainly consists of big sagebrush, Douglas rabbitbrush, antelope bitterbrush, rubber rabbitbrush, Nevada ephedra, Indian ricegrass, spiny hopsage, needleandthread, western needlegrass, and annual forbs.

Burchflat Series

Burchflat-Celeridge-Loope association, Burchflat-Loope association – The Burchflat series consists of moderately deep, well drained soils that formed in residuum and colluvium derived from andesite, tuff, or tuff breccia at elevations between 7,000 to 8,300 feet. Taxonomic classes for this series include loamy-skeletal, mixed, superactive and frigid Pachic Argixerolls. These soils occur on mountains with slopes of 4 to 50 percent. Coloration is grayish brown, very dark grayish brown, brown, dark brown and pale brown down to 36 inches deep. The mean annual precipitations are 16 to 24 inches and mean annual temperature is 39 to 45 degrees Fahrenheit. The average frost-free season is about 40 to 70 days. The primary use of this soil is for rangeland, recreation, watershed and wildlife habitat, and the vegetation mainly consists of mountain big sagebrush, antelope bitterbrush, snowberry, and western needlegrass.

Buscones Series

Buscones very gravelly loamy sand (2 to 15 percent slopes), Buscones very gravelly loamy sand, dry (2 to 15 percent slopes (0 to 5 percent slopes, Buscones very gravelly loamy sand, moist (2 to 15 percent slopes), Buscones-Cashbaugh-rock outcrop association (0 to 8 percent slopes), Cashbaugh-Buscones complex (0 to 4 percent slopes), Cashbaugh-Buscones-Calpine family complex (0 to 4 percent slopes), Lithic Xeric Torriorthents-Buscones complex (15 to 50 percent slopes), Sherwin-Buscones families complex (0 to 15 percent slopes) – The Buscpnes series consists of moderately deep, somewhat excessively drained, soils that formed in volcanoc ash and residuum from ashy rhyolitic tuff at elevations

between 5,200 to 7,400 feet. Taxonomic classes for this series include ashy, glassy, nonacid and mesic Vitrandic Torripsamments. These soils occur on sideslopes of hills, volcanic flows and lake terraces with slopes of 0 to 50 percent. Coloration is light gray, grayish brown, white and light brownish gray down to 31 inches deep. The mean annual precipitations are 7 to 12 inches and mean annual temperature is 45 to 57 degrees Fahrenheit. The average frost-free season is about 100 to 150 days. The primary use of this soil is for rangeland, wildlife habitat and commercial pumice mining in some areas, and vegetation mainly consists of big sagebrush, Indian ricegrass and desert needlegrass.

Calpine Series

Calpine family (5 to 30 percent slopes), Cashbaugh-Buscones-Calpine family complex (0 to 4 percent slopes – The Calpine series consists of very deep, well drained soils that formed in alluvium derived from granitic rocks at elevations between 2,999 to 6,005 feet. Taxonomic classes for this series include coarse-loamy, mixed, superactive and mesic Aridic Haploxerolls with slopes of 0 to 15 percent. Coloration is dark grayish brown, very dark brown, brown, dark yellowish brown, variegated light yellowish brown, yellow, dark yellowish brown, light yellowish brown and dark reddish brown down to 81 in deep. The mean annual precipitations are 10 to 16 in and mean annual temperature is 48 to 54 degrees Fahrenheit. The average frost-free season is about 60 to 130 days. The primary use of this soil is for livestock grazing, a few areas are used for irrigated agriculture with alfalfa hay and pasture as the main crops. The native vegetation mainly consists of mountain big sagebrush, antelope bitterbrush, needleandthread, Thurber's needlegrass, and Indian ricegrass.

Carshal Series

Loope-Heenlake-Carhsal association – The Carshall series consists of very shallow and shallow, well drained soils that formed in residuum and colluvium from andesite, tuff, and tuff-breccia at elevations between 6,000 to 8,000 feet. Taxonomic classes for this series include loamy-skeletal, mixed, superactive, nonacid, frigid and shallow Typic Xerorthents. These soils occur on mountains with slopes of 30 to 75 percent. Coloration is dark grayish brown and very dark brown down to 14 inches deep. The mean annual precipitations are 16 to 24 inches and mean annual temperature is 39 to 45 degrees Fahrenheit. The average frost-free season is about 40 to 70 days. The primary use of this soil is for rangeland, recreation, watershed and wildlife habitat, and vegetation mainly consists of mountain big sagebrush, antelope bitterbrush, curl-leaf mountain mahogany, bluegrass, singleleaf pinyon, Sierra juniper, and Jeffrey pine.

Cartago Series

Cartago gravelly loamy coarse sand (5 to 30 percent slopes), Cartago gravelly loamy sand (2 to 5 percent slopes), Cartago-Hesperia complex (0 to 2 percent slopes) – The Cartago series consists of very deep, somewhat excessively drained soils formed in granitic alluvium and in some small areas mixed alluvium at elevations between 3,700 to 5,500 feet. Taxonomic classes for this series include sandy, mixed and thermic Xeric Torriorthents. These soils occur on alluvial fans, fan terraces, and edges of valley floors with slopes of 0 to 30 percent. Coloration is light yellowish brown and dark yellowish brown down to 60 inches deep. The mean annual precipitations are 4 to 10 inches and mean annual temperature is 57 to 61 degrees Fahrenheit. The average frost-free season is about 140 to 200 days. The primary use of this soil is for grazing, wildlife habitat and as a source of road construction material, and vegetation mainly consists of spiny hopsage, Cooper goldenbush, Nevada ephedra and desert needlegrass.

Cashbaugh Series

Buscones-Cashbaugh-rock outcrop association (0 to 8 percent slopes), Cashbaugh-Buscones complex (0 to 4 percent slopes), Cashbaugh-Buscones-Calpine family complex (0 to 4 percent slopes), Plutos family-Cashbaugh-rock outcrop association (0 to 30 percent slopes), Plutos family-Cashbaugh-rock outcrop association (30 to 50 percent slopes) – The Cashbaugh series consists of shallow and very shallow, somewhat excessively drained soils at elevations between 6,400 to 7,500 feet. Taxonomic classes for this series include ashy, glassy, nonacid and mesic Lithic Torripsamments. These soils occur on nearly level to undulating volcanic tablelands, volcanic flows and lake terraces with slopes of 0 to 50 percent. Coloration is grayish brown, very dark grayish brown and brown down to 10 inches deep. The mean annual precipitations are 8 to 13 inches and mean annual temperature is 44 to 50 degrees Fahrenheit. The average frost-free season is about 110 to 140 days. The primary use of this soil is for rangeland and wildlife habitat, and vegetation mainly consists of big sagebrush, antelope bitterbrush, Indian ricegrass, western needlegrass, needleandthread grass and perennial forbs.

Celeridge Series

Burchflat-Celeridge-Loope association, Loope-Heenlake-Celeridge association – The Celeridge series consists of shallow, well drained soils that formed in colluvium and residuum derived from tuff, tuff-breccia, and andesite at elevations between 6,496 to 8,300 meters. Taxonomic classes for this series include loamy-skeletal, mixed, superactive and frigid Lithic Argixerolls. These soils occur on mountains with slopes of 4 to 75 percent. Coloration is dark grayish brown, very dark brown, grayish brown, dark brown, very dark grayish brown and brown down to 19 in deep. The mean annual precipitations are 16 to 24 in and mean annual temperature is 39 to 45 degrees Fahrenheit. The average frost-free season is about 40 to 70 days. The primary use of this soil is for livestock grazing, recreation, watershed and wildlife habitat, and vegetation mainly consists of curl-leaf mountain mahogany, snowberry, antelope bitterbrush, mountain big sagebrush and western needlegrass.

Chesaw Series

Biglake-Chesaw families-Rock outcrop complex (30 to 50 percent slopes),Chesaw family (0 to 5 percent slopes),Chesaw family (5 to 15 percent slopes) – The Chesaw series consists of very deep, somewhat excessively drained soils formed in glacial outwash at elevations between 1,800 to 3,400 feet. Taxonomic classes for this series include sandy-skeletal, mixed and frigid Entic Haploxerolls. These soils occur on terraces, terrace escarpments and eskers with slopes of 0 to 65 percent. Coloration is dark gray, black, brown and dark brown down to 60 inches deep. The mean annual precipitations are 14 to 18 inches and mean annual temperature is 41 to 45 degrees Fahrenheit. The average frost-free season is about 100 to 130 days. The primary use of this soil is for rangeland and wildlife habitat, and vegetation mainly consists of bluebunch wheatgrass, needlegrass, cheatgrass and scattered ponderosa pine.

Chidago Series

Chidago gravelly loamy sand (2 to 9 percent slopes) – The Chidago series consists of moderately deep, somewhat excessively drained sandy soils that formed from soft rhyolitic tuffs at elevations between 4,400 to 5,400 feet. Taxonomic classes for this series include ashy, glassy, nonacid and thermic Vitrandic Torripsamments. These soils occur on volcanic tableland with slopes of 2 to 9 percent. Coloration is light brown, brown, pink, reddish brown and reddish yellow down to 60 inches deep. The mean annual precipitations are 6 to 8 inches and mean annual temperature is 57 to 62 degrees Fahrenheit. The average frost-free season is about 140 to 180 days. The primary use of this soil is for rangeland, wildlife

habitat and commercial pumice mining in some spots, and vegetation mainly consists of Nevada ephedra, Fremont dalea, shadscale, fourwing saltbush, Nevada dalea, longspine horsebrush, spiny hopsage, desert needlegrass, Indian ricegrass, common winterfat and annual forbes.

Chrisflat Series

Chrisflat very gravelly coarse sandy loam (4 to 15 percent slopes) – The Chirsflat series consists of very deep, well drained soils that formed in alluvium derived from igneous and metamorphic rocks at elevations between 6,000 to 7,500 feet. Taxonomic classes for this series include loamy-skeletal, mixed, superactive and frigid Pachic Argixerolls. These soils occur on fan remnants with slopes of 4 to 15 percent. Coloration is grayish brown, very dark grayish brown, dark grayish brown, brown, dark brown, yellowish brown and dark yellowish brown down to 60 inches deep. The mean annual precipitations are 16 to 24 inches and mean annual temperature is 39 to 45 degrees Fahrenheit. The average frost-free season is about 40 to 70. The primary use of this soil is for rangeland, recreation, watershed and wildlife habitat, and vegetation mainly consists of mountain big sagebrush, antelope bitterbrush and western needlegrass with some widely scattered Jeffrey pine.

Conway Series

Alamedawell-Conway-Xerofluvents complex (0 to 4 percent slopes), *Conway sandy loam (0 to 8 percent slopes), Conway-Aquents-Watterson complex (0 to 2 percent slopes), Conway-Watterson complex (0 to 2 percent slopes), Watterson-Conway-Ulymeyer complex (0 to 15 percent slopes)* – The Conway series consists of very deep, poorly drained soils that formed in alluvium derived from granitic and mixed sources influenced by volcanic ash at elevations between 6,000 to 8,600 feet. Taxonomic classes for this series include coarse-loamy, mixed, superactive and frigid Cumulic Endoaquolls. These soils occur on flood plains and alluvial fans with slopes of 0 to 15 percent. Coloration is grayish brown, very dark grayish brown, very dark brown, light brownish gray, olive gray, white and greenish gray down to 60 inches deep. The mean annual precipitations are 8 to 16 inches, and mean annual temperature is 43 to 54 degrees Fahrenheit. Endosaturation is present with an apparent seasonal high water table between 0.5 and 4 feet year-round but it is above 2 feet in spring. These soils are susceptible to occasional flooding for brief periods between January and June. The average frost-free season is about 70 to 150 days. The primary use of this soil is for pasture and wetland wildlife habitat, and vegetation mainly consists of sedges, tufted hairgrass, and Sandberg's bluegrass.

Conwayridge Series

Dunderberg-Conwayridge association – The Conwayridge series consists of very deep, well drained soils that formed in till derived from igneous and metamorphic rocks with surficial additions of eolian volcanic ash at elevations between 8,000 to 9,500 feet. Taxonomic classes for this series include loamy-skeletal, mixed, superactive and frigid Vitrandic Argixerolls. These soils occur on moraines with slopes of 8 to 30 percent. Coloration is grayish brown, very dark grayish brown, olive brown, brown, dark brown, pale brown and light yellowish brown down to 63 inches deep. The mean annual precipitations are 30 to 40 inches and mean annual temperature is 36 to 39 degrees Fahrenheit. The average frost-free season is about 40 to 60 days. The primary use of this soil is for rangeland, recreation, watershed and wildlife habitat, and vegetation mainly consists of low sagebrush, pine needlegrass, prairie junegrass and sedge.

Corbett Series

Corbett family-Vitrandic Xeropsamments Warm-rock outcrop complex (15 to 30 percent slopes), Corbett – Nanamkin families- rock outcrop complex *(30 to 60 percent slopes), Corbett-Toiyabe-Rock outcrop complex (15 to 50 percent slopes), Vitrandic Xeropsamments-Corbett family-Rock outcrop complex (15 to 30 percent slopes)* – The Corbett series consists of moderately deep, somewhat excessively drained soils that formed in residuum and colluvium derived from granitic rocks at elevations between 5,500 to 8,000 feet. Taxonomic classes for this series include mixed and frigid Typic Xeropsamments. These soils occur on mountains with slopes of 4 to 75 percent. Coloration is dark grayish brown, very dark brown, grayish brown, very dark grayish brown, pale brown and brown down to 32 inches deep. The mean annual precipitations are 16 to 35 inches and mean annual temperature is 39 to 45 degrees Fahrenheit. The average frost-free season is about 50 to 90 days. The primary use of this soil is for forestland and wildlife habitat, and vegetation mainly consists of a forest canopy of Jeffrey pine with an understory of pinemat manzanita and antelope bitterbrush.

Cozetica Series

Cozetica family- rock outcrop complex (15 to 60 percent slopes), Cozetica gravelly coarse sand (0 to 8 percent slopes) – The Cozetica series consists of very deep and somewhat excessively drained soils formed in ashy alluvium and aerial ash deposits at elevations between 7,000 to 8,200 feet. Taxonomic classes for this series include ashy, glassy, nonacid and frigid Vitrandic Torripsamments. These soils occur on valley floors and fan terraces with slopes of 0 to 8 percent. Coloration is light brownish gray, very dark grayish brown, light gray, dark grayish brown, light brownish gray, very pale brown and brown down to 65 inches deep. The mean annual precipitations are 12 to 14 inches and mean annual temperature is 39 to 44 degrees Fahrenheit. The average frost-free season is about 75 to 110 days. The primary use of this soil is for rangeland and wildlife habitat, and vegetation mainly consists of big sagebrush, antelope bitterbrush, western needlegrass, Indian ricegrass, basin wildrye, perennial forbs, annual forbs and needleandthread grass.

Dechambeau Series

Dechambeau gravelly sandy loam (0 to 2 percent slopes), Dechambeau gravelly sandy loam (2 to 4 percent slopes) Dechambeau very gravelly – Dechambeau complex (0 to 4 percent slopes) - The Dechambeau series consists of very deep, well drained soils formed in mixed alluvium influenced by volcanic ash at elevations between 5,300 to 7,000 feet. Taxonomic classes for this series include Coarse-loamy, mixed, superactive, nonacid, mesic Xeric Torriorthents. These soils occur on alluvial fans and lakeshore terraces with slopes of 0 to 15 percent. Coloration is light brownish gray, dark brown, brown, yellowish brown and dark yellowish brown down to 60 inches deep. The mean annual precipitations are 8 to 12 inches and mean annual temperature 45 to 54 degrees Fahrenheit. The average frost-free season is about 100 to 130 days. The primary use of this soil is for rangeland, watershed and wildlife habitat, and vegetation mainly consists of Antelope bitterbrush, Wyoming big sagebrush, Indian ricegrass, needleandthread and desert needlegrass.

Dehy Series

Dehy sandy loam, cool (0 to 2 percent slopes), Dehy-Dehy saline complex (0 to 2 percent slopes), Roundval-Dehy-Mountom complex (0 to 2 percent slopes) – The Dehy series consists of very deep, somewhat poorly drained soils that formed in alluvium derived from mixed sources at elevations between 3,600 to 4,800 feet. Taxonomic classes for this series include coarse-loamy, mixed, superactive

and mesic Oxyaquic Haploxerolls. These soils occur on alluvial fans and low stream terraceswith slopes of 0 to 5 percent. Coloration is dark gray, very dark gray, grayish brown, yellowish brown, dark yellowish brown, brown and pale brown down to 60 inches deep. The mean annual precipitations are 4 to 8 inches and mean annual temperature is 57 to 64 degrees Fahrenheit. Endosaturation is present with an apparent seasonal high water table between 2 and 5 feet from March 1 to June 1. These soils are susceptible to rare flooding for very brief or long periods year-round. The average frost-free season is about 140 to 220 days. The primary use of this soil is for irrigated pasture and vegetation mainly consists of mixed pasture grasses.

Delaney Series

Delaney family-Rock outcrop-Vitrandic Torriorthents, ashy complex, (0 to 30 percent slopes) – The Delaney series consists of deep, somewhat excessively drained soils that formed in sandy glacial outwash derived from volcanic ash and rock at elevations between 2,800 to 4,500 feet. Taxonomic classes for this series include ashy, glassy, nonacid and mesic Vitrandic Xeropsamments. These soils occur on glacial outwash plains and fans with slopes of 0 to 15 percent. Coloration is grayish brown, very dark grayish brown, olive brown, pale brown, light gray, brown, very pale brown, dark grayish brown and white down to 68 inches deep. The mean annual precipitations are 10 to 16 inches with snowfall of 18 to 24 inches, and mean annual temperature is 46 to 51 degrees Fahrenheit. The average frost-free season is about 100 to 140 days. The primary use of this soil is for rangeland, but some areas are irrigated and cropped. Principal crops are pasture, potatoes, onions or field corn. Other vegetation mainly consists of bitterbrush, rabbitbrush, sagebrush, manzanita, wild currant, wild gooseberry, bluebunch wheatgrass, Sandberg bluegrass, prairie june grass, western juniper and other perennial and annual forbs and grasses.

Dunderberg Series

Dunderberg-Conwayridge association – The Dunderberg series consists of very deep, well drained soils that formed in till derived from igneous and metamorphic rocks with additions of volcanic ash at elevations between 8,000 to 9,500 feet. Taxonomic classes for this series include loamy-skeletal, mixed and superactive Vitrandic Haplocryolls. These soils occur on moraines with slopes of 8 to 30 percent. Coloration is dark grayish brown, very dark brown, brown, yellowish brown and dark yellowish brown down to 60 inches deep. The mean annual precipitations are 30 to 45 inches and mean annual temperature is 36 to 40 degrees Fahrenheit. The average frost-free season is about 40 to 60 days. The primary use of this soil is for rangeland, recreation, watershed, and wildlife habitat and vegetation mainly consists of low-stature mountain big sagebrush, snowberry, western needlegrass, bluegrass and sedge.

Elaero Series

Elaero-Lockgate-Granhogany association – The Elaero series consists of moderately deep, well drained soils that formed in residuum and colluvium derived from granitic rock at elevations between 7,000 to 8,500 feet. Taxonomic classes for this series include loamy-skeletal, mixed, superactive and frigid Typic Argixerolls. These soils occur on mountains slopes with slopes of 4 to 75 percent. Coloration is grayish brown, very dark grayish brown, brown, dark brown and dark yellowish brown down to 31 inches deep. The mean annual precipitations are 16 to 24 inches and the mean annual temperature is 39 to 45 degrees Fahrenheit. The average frost-free season is about 50 to 70 days. The primary use of this soil is rangeland, recreation, watershed and wildlife habitat, and vegetation mainly consists of big sagebrush, antelope bitterbrush, western needlegrass, Thurber's needlegrass and Indian ricegrass.

Glenbrook Series

Berent-Glenbrook-Nanamkin families association (30 to 50 percent slopes) – The Glenbrook series consists of shallow, somewhat excessively drained soils that formed in residuum and colluvium derived from granitic rock at elevations between 4,413 to 6,808 feet. Taxonomic classes for this series include mixed, mesic and shallow Xeric Torripsamments. These soils occur on rock pediments, hills and mountains with slopes of 5 to 75 percent. Coloration is grayish brown, very dark grayish brown, grayish brown, light brownish gray and brown down to 25 inches deep. The mean annual precipitations are 10 to 16 in and mean annual temperature is 34 to 52 degrees Fahrenheit. The average frost-free season is about 60 to 120 days. The primary use of this soil is livestock grazing and wildlife habitat, and vegetation mainly consists of Wyoming big sagebrush, antelope bitterbrush, green ephedra, Anderson's peachbrush, Indian ricegrass and bottlebrush squirreltail.

Granhogany Series

Elaero-Lockgate-Granhogany association – The Granhogany series consists of shallow, somewhat excessively drained soils that formed in residuum and colluvium derived from granitic rock at elevations between 7,000 to 8,500 feet. Taxonomic classes for this series include sandy-skeletal, mixed, frigid and shallow Entic Haploxerolls. These soils occur on mountains with slopes of 15 to 50 percent. Coloration is dark grayish brown, very dark brown, grayish brown, very dark grayish brown and brown down to 25 inches deep. The mean annual precipitations are 16 to 30 inches and mean annual temperature is 40 to 44 degrees Fahrenheit. The average frost-free season is about 50 to 70 days. The primary use of this soil is for rangeland, recreation, watershed and wildlife habitat, and vegetation mainly consists of curl-leaf mountain mahogany, mountain big sagebrush, antelope bitterbrush, snowberry and western needlegrass.

Fishsnooze Series

Fishsnooze very gravelly peaty coarse sandy loam, Florand-Lostridge associations – The Fishsnooze series consists of moderately deep, well drained soils at elevations between 8,000 and 12,000 feet. Taxonomic classes for this series include loamy-skeletal and isotic Xeric Humicryepts. These soils occur on mountains with slopes of 8 to 50 percent. Coloration is dark grayish brown, very dark brown, brown, dark brown and dark yellowish brown down to 35 inches deep. The mean annual precipitations are 35 to 55 inches and mean annual temperature is 36 to 39 degrees Fahrenheit. The average frost-free season is about 15 to 60 days. The primary use of this soil is for forest land, recreation, watershed, and wildlife habitat. Vegetation is mainly a forest canopy of mountain hemlock, western white pine and whitebark pine.

Fluvaquentic Endoaquolls

Fluvaquentic Endoaquolls-Xerofluvents complex (0 to 4 percent slopes) – No description available.

Haplargids

Torriorthents-Haplargids-Rock outcrop complex (15 to 50 percent slopes) – No description available.

Haypress **Series**

Haypress family (0 to 15 percent slopes), Haypress family-Rock outcrop association (30 to 60 percent slopes) – The Haypress series consists of deep, somewhat excessively drained soils that formed in material weathered from granitic rocks at elevations between 5000 to 8000 feet. Taxonomic classes for this series include mixed and frigid Psammentic Haploxerolls. These soils occur on mountain sideslopes with slopes of 2 to 75 percent. Coloration is grayish brown, very dark gray, very dark grayish brown, pale brown and brown down to 67 inches deep. The mean annual precipitations are 14 to 24 inches and mean annual temperature is 45 to 47 degrees Fahrenheit. The average frost-free season is about 30 to 80 days. The primary use of this soil is for timber production and livestock grazing, and vegetation mainly consists of Jeffrey and Ponderosa pine with black oak, Manzanita, perennial and annual grasses, and some scattered big sagebrush and bitterbrush.

Heenlake Series

Loope-Heenlake-Celeridge association, Loope-Heenlake-Carhsal association, Loope- Pinew-Heenlake association, Heenlake-Loope association – The Heenlake series consists of moderately deep, well drained soils that formed in colluvium and residuum derived from tuff, tuff-breccia and andesite at elevations between 5,413 to 8,710 feet. Taxonomic classes for this series include loamy-skeletal, mixed, superactive and frigid Typic Argixerolls. These soils occur on mountains with slopes of 4 to 50 percent. Coloration is grayish brown, very dark grayish brown, dark grayish brown, very dark brown and brown down to 32 inches deep. The mean annual precipitations are 14 to 24 in and mean annual temperature is 39 to 45 degrees Fahrenheit. The average frost-free season is about 40 to 80 days. The primary use of this soil is for livestock grazing, recreation, watershed and wildlife habitat, and vegetation mainly consists of mountain big sagebrush, antelope bitterbrush and western needlegrass.

Hesperia Series

Hesperia loamy sand (0 to 2 percent slopes), Cartago-Hesperia complex (0 to 2 percent slopes) – The Hesperia series consists of very deep, well drained soils that formed in alluvium derived primarily from granite and related rocks at elevations between 200 feet in the San Joaquin Valley and as high as 4,800 feet in the high desert. Taxonomic classes for this series include coarse-loamy, mixed, superactive, nonacid and thermic Xeric Torriorthents. These soils occur on alluvial fans, valley plains and stream terraces with slopes of 0 to 9 percent. Coloration is pale brown and dark brown down to 77 inches deep. The mean annual precipitations are 4 to 9 inches and mean annual temperature 57 to 69 degrees Fahrenheit. The average frost-free season is about 140 to 310 days. The primary use of this soil is for desert range, production of irrigated orchards, row crops, field crops, grain, hay, pasture and grapes, and native vegetation mainly consists of creosotebush in the high desert and sparse annuals in the valley.

Hessica Series

Hessica fine sandy loam, high elevation (0 to 2 percent slopes) – The Hessica series consists of very deep, well drained soils that formed in alluvium from mixed sources at elevations between 3,800 to 4,200 feet. Taxonomic classes for this series include fine-loamy, mixed, superactive and thermic Xeric Natrargids. These soils occur on stream terraces with slopes of 0 to 2 percent. Coloration is light gray, grayish brown, dark grayish brown, variegated dark grayish brown, very dark grayish brown, light brownish gray and olive brown down to 60 inches deep. The mean annual precipitations are 4 to 6 inches and mean annual temperature is 57 to 61 degrees Fahrenheit. The average frost-free season is

about 140 to 180 days. The primary use of this soil is for rangeland and wildlife habitat, and vegetation mainly consists of black greasewood, shadscale and alkali sacaton.

Honova Series

Honova extremey cobbly loamy sand (*0 to 9 percent slopes), Honova very cobbly loamy sand (0 to 9 percent slopes), Honova loamy coarse sand, slightly moist (9 to 30 percent slopes)* – The Honova series consists of shallow and very shallow, well drained soils that formed from hard rhyolitic tuffat elevations between 4,300 to 5,700 feet. Taxonomic classes for this series include ashy, glassy, nonacid and thermic Lithic Xeric Torriorthents. These soils occur on volcanic tablelands with slopes of 0 to 30 percent. Coloration is pale brown, dark grayish brown, light gray and brown down to 7 inches deep. The mean annual precipitations are 4 to 10 inches and mean annual temperature is 57 to 61 degrees Fahrenheit. The average frost-free season is about 140 to 175 days. The primary use of this soil is for grazing and wildlife habitat, and vegetation mainly consists of Nevada ephedra, blackbrush, spiny hopsage, needleleaf rabbitbrush and desert needlegrass.

Hopeval Series

Hopeval very fine sandy loam, Burnlake-Cavebear association – The Hopeval series consists of very deep, poorly and very poorly drained soils at elevations between 7,000 and 9,000 feet. Taxonomic classes for this series include coarse-loamy, mixed and superactive Cumulic Cryaquolls. These soils occur on flood plains and stream terraces with slopes of 0 to 8 percent. Coloration is very dark brown, dark grayish brown, very dark grayish brown, grayish brown, yellowish brown, dark yellowish brown, light brownish gray and faint black down to 60 inches deep. The mean annual precipitations are 30 to 50 inches and mean annual temperature is 36 to 39 degrees Fahrenheit. The apparent seasonal high water table is 20 inches from November through June. The average frost-free season is about 30 to 60 days. The primary use of this soil is for rangeland, recreation, watersheds and wildlife habitat. Vegetation mainly consists of sedges and rushes.

Jaybee Series

Jaybee very cobbly sandy loam, Pickup-Wylo association – The Jaybee series consists of very shallow and shallow, well drained soils at elevations between 4,265 and 6,561 feet. Taxonomic classes for this series include loamy, mixed, superactive and mesic Lithic Xeric Haplargids. These soils occur on hills, mountains and plateaus with slopes of 2 to 50 percent. Coloration is pale brown, dark grayish brown, brown, dark brown and dark yellowish brown down to 14 inches deep. The mean annual precipitations are 8 to 12 in and mean annual temperature is 48 to 53 degrees Fahrenheit. The average frost-free season is about 80 to 100 days. The primary use of this soil is for rangeland and wildlife habitat and vegetation mainly consists of Lahontan sagebrush, bottlebrush squirreltail, cheatgrass and Thurber's needlegrass.

Kilburn Series

Bairs-Kilburn family complex (8 to 30 percent slopes) – The Kilburn series consists of very deep, somewhat excessively drained, moderately to rapidly permeable soils at elevations between 4,400 to 5,300 feet. Taxonomic classes for this series include loamy-skeletal, mixed, superactive and mesic Typic Haploxerolls. These soils occur on alluvium and colluvium derived dominantly from gneiss, schist and quartzite on fan terraces, lake terraces, stream terraces and deltas with slopes of 0 to 20 percent, but range from 0 to 50 percent. Coloration is very dark grayish brown, dark brown, very dark brown, light

olive brown and olive brown down to 60 inches deep. The mean annual precipitations are 15 to 19 inches, with 12 to 16 inches during the period where the average monthly temperature is above 32 degrees Fahrenheit. The mean annual temperature is 45 to 52 degrees Fahrenheit with an average frost-free season of about 140 to 180 days. The primary use of this soil is for irrigated cropland, orchards, rangeland and urban areas, and vegetation mainly consists of bluebunch wheatgrass, sand dropseed, Indian ricegrass, needleandthread, big sagebrush and oakbrush.

Lockgate Series

Elaero-Lockgate-Granhogany association - The Lockgate series consists of deep, well drained soils that formed in colluvium and residuum derived from granitic rock at elevations between 7,000 to 8,500 feet. Taxonomic classes for this series include loamy-skeletal, mixed, superactive and frigid Pachic Argixerolls. These soils occur on mountains with slopes of 30 to 75 percent. Coloration is dark grayish brown, very dark brown, grayish brown, pale brown and brown down to 52 inches deep. The mean annual precipitation 16 to 24 inches and mean annual temperature is 39 to 45 degrees Fahrenheit. The average frost-free season is about 50 to 70 days. The primary use of this soil is for rangeland, recreation, watershed and wildlife habitat, and vegetation mainly consists of mountain big sagebrush, mountain snowberry, currant and western needlegrass.

Loope Series

Burchflat-Celeridge-Loope association, Loope-Heenlake-Celeridge association, Loope-Heenlake-Carhsal association, Loope- Pinew-Heenlake association, Burchflat-Loope association, Heenlake-Loope association – The Loope series consists of shallow, well drained soils that formed in colluvium and residuum derived from tuff, tuff-breccia and andesite at elevations between 5,315 to 8,710 feet. Taxonomic classes for this series include loamy-skeletal, mixed, superactive and frigid Lithic Argixerolls. These soils occur on mountains with slopes of 4 to 75 percent. Coloration is brown and dark brown down to 14 in deep. The mean annual precipitations are 14 to 24 in and mean annual temperature is 39 to 45 degrees Fahrenheit. The average frost-free season is about 40 to 70 days. The primary use of this soil is for livestock grazing, recreation, watershed and wildlife habitat, and vegetation mainly consists of mountain big sagebrush, antelope bitterbrush and western needlegrass with scattered singleleaf pinyon, Jeffrey pine and Sierra juniper.

Lavaspring Series

Lavaspring mucky ashy loam, Lavaspring complex (0 to 4 percent slopes),Lavaspring-Trespass complex (0 to 4 percent slopes), Trespass association – The Lavaspring series consists of very deep, poorly drained soils at elevations between 7,000 and 9,000 feet. Taxonomic classes for this series include fine-loamy, mixed and superactive Aquandic Cryaquolls. These soils occur on stream terraces and flood plains with slopes of 0 to 4 percent. Coloration is dark grayish brown, very dark brown, very dark gray, black, gray, grayish brown and very dark grayish brown down to 60 inches deep. The mean annual precipitations are 16 to 25 inches and mean annual temperature is 40 to 44 degrees Fahrenheit. The apparent seasonal high water table is 20 inches deep, which occurs from November to June. The average frost-free season is about 40 to 70 days. The primary use for this soil is for rangeland, recreation, watersheds and wildlife habitat. Vegetation mainly consists of sedges and rushes.

Lithic Xeric Torriorthents

Lithic Xeric Torriorthents-Buscones complex (15 to 50 percent slopes) – No description available.

Lithnip Series

Lithnip extremely gravelly sandy loam, Florand-Lostridge-Hawkinspeak association – The Lithnip series consists of very shallow, somewhat excessively drained soils at elevations between 8,000 and 12,000 feet. Taxonomic classes for this series include loamy-skeletal, isotic and nonacid Lithic Cryorthents. These soils occur on mountains with slopes of 8 to 75 percent. Coloration is light yellowish brown and dark yellowish brown down to 5 inches deep. The mean annual precipitations are 35 to 55 inches and mean annual temperature is 36 to 39 degrees Fahrenheit. The average frost-free season is about 15 to 60 days. The primary use of this soil is for rangeland, recreation, watersheds and wildlife habitat. Vegetation mainly consists of various forbs and grasses including mules ear wyethia, eriogonum ssp, haplopappus spp, phlox, bluegrass, sedge, and needlegrass.

Millner Series

Millner very gravelly sandy loam, Yermo association – The Millner series consists of very deep, well drained soils at elevations between 4,400 and 5,500 feet. Taxonomic classes for this series include loamy-skeletal, mixed, superactive, calcareous and thermic Xeric Torriorthents. These soils occur on alluvial fans with slopes of 5 to 15 percent. Coloration is pale brown, dark brown, dark grayish brown, brown, light yellowish brown and yellowish brown down to 60 inches deep. The mean annual precipitations are 6 to 8 inches and mean annual temperature is 46 to 51 degrees Fahrenheit. The average frost-free season is about 150 to 160 days. The primary use of this soil is for grazing, wildlife habitat and gravel extraction. Vegetation is mainly spiny hopsage, Fremont dalea, Nevada ephedra and desert needlegrass.

Montezuma Series

Montezuma gravelly loamy sand, Brantel-Buscones-Wellington – The Montezuma series consists of moderately deep, somewhat excessively drained soils at elevations between 5,400 and 7,300 feet. Taxonomic classes for this series include ashy, glassy and mesic Vitrixerandic Haplodurids. These soils occur on fan terraces with slopes of 2 to 9 percent. Coloration is light brownish gray, dark grayish brown, light gray, grayish brown and pale brown down to 60 inches deep. The mean annual precipitations are 6 to 10 inches and mean annual temperature is 46 to 50 degrees Fahrenheit. The average frost-free season is about 125 to 150 days. The primary use of this soil is for grazing and wildlife habitat. Vegetation is mainly big sagebrush, Douglas rabbitbrush, spiny hopsage, Nevada ephedra and Indian ricegrass.

Murain Series

Murain extremely stony coarse sandy loam, Aspetill-Cloudburst – The Murain series consists of very deep, well drained soils at elevations between 6,500 and 8,000 feet. Taxonomic classes for this series include loamy-skeletal, mixed, superactive and frigid Pachic Argixerolls. These soils occur on moraines with slopes of 4 to 50 percent. Coloration is dark grayish brown, very dark brown, brown and pale brown down to 60 inches deep. The mean annual precipitations are 18 to 30 inches and mean annual temperature is 39 to 45 degrees Fahrenheit. The average frost-free season is about 40 to 70 days. The primary use of this soil is for rangeland, recreation, watersheds and wildlife habitat. Vegetation mainly consists of mountain big sagebrush, antelope bitterbrush and western needlegrass.

Nanamkin Series

Berent-Glenbrook-Nanamkin families association (30 to 50 percent slopes), Corbett – *Nanamkin families-rock outcrop* complex (30 to 60 percent slopes)-The Nanamkin series consists of very deep, somewhat excessively drained soils at elevations between 2,500 to 3,500 feet. Taxonomic classes for this series include sandy-skeletal, isotic and frigid Typic Xerorthents. These soils occur on floodplains and outwash terraces with slopes of 0 to 15 percent. Coloration is light gray, dark grayish brown, very pale brown, dark yellowish brown, brown, yellowish brown and pale brown down to 61 inches deep. The mean annual precipitations are 20 to 25 inches and mean annual temperature is 40 to 44 degrees Fahrenheit. The average frost-free season is about 90 to 120 days. The primary use of this soil is woodland and grazing, and vegetation mainly consists of Douglas fir, lodgepole pine, western larch, Engelmann spruce, kinnikinnick, wild strawberry, pinegrass, sedges, huckleberry, princess pine, moss and twin flower.

Oest Series

Oest gravelly sandy loam, Orr-Springmeyer association – The Oest series consists of very deep, well drained soils at elevations between 4,511 to 5,709 feet. Taxonomic classes for this series include loamy-skeletal, mixed, superactive and mesic Arid Argixerolls. These soils occur on fan remnants and stream terraces with slopes of 0 to 50 percent. Coloration is grayish brown, dark grayish brown, light brown, brown and pale brown down to 60 inches deep. The mean annual precipitations are 8 to 14 in and mean annual temperature is 45 to 52 degrees Fahrenheit. The average frost-free season is about 80 to 130 days. The primary use of this soil is for livestock grazing, recreation and urban development. Vegetation mainly consists of Wyoming big sagebrush, antelope bitterbrush, bottlebrush squirreltail and cheatgrass.

Orecart Series

Alamedawell-Orecart complex (0 to 4 percent slopes), Alamedawell-Orecart complex (4 to 15 percent slopes), Orecart loamy sand (0 to 4 percent slopes) – The Orecart series consists of very deep, somewhat excessively drained soils that formed in mixed alluvium and volcanic ash at elevations between 6,400 to 7,100 feet. Taxonomic classes for this series include ashy, glassy, nonacid and mesic Vitrandic Torripsamments. These soils occur on lake terraces with slopes of 0 to 15 percent. Coloration is light brownish gray, dark brown, brown, dark yellowish brown and pale brown down to 65 inches deep. The mean annual precipitations are 8 to 12 inches and mean annual temperature is 45 to 50 degrees Fahrenheit. The average frost-free season is about 100 to 135 days. The primary use of this soil is for livestock grazing, watershed, and wildlife habitat, and vegetation mainly consists of big sagebrush, antelope bitterbrush, Indian ricegrass, needleandthread, and Douglas rabbitbrush.

Pass Canyon Series

Pass Canyon very cobbly coarse sandy loam, Deer Creek-Red Butte-Pharo-Yeates Hollow association – The Pass Canyon series consists of shallow, well drained soils at elevations between 5,499 and 7,710 feet. Taxonomic classes for this series include loamy, mixed, superactive and mesic Lithic Argixerolls. These soils occur on hills, ridges and mountain slopes with slopes of 5 to 60 percent. Coloration is brown, dark brown and very dark brown down to 14 in deep. The mean annual precipitations are 12 to 17 in and mean annual temperature is 45 to 50 degrees Celsius. The average frost-free season is about 90 to 130 days. The primary use of this soil is for watershed and wildlife grazing. Vegetation consists of pinyon, juniper, big sagebrush, rock goldenrod, bitterbrush, Mormon tea, and bluebunch wheatgrass.

Pinew Series

Loope- Pinew-Heenlake association, Pinew-Rock outcrop association – The Pinew series consists of shallow, well drained soils that formed in colluvium and residuum derived from tuff, tuff-breccia, and andesite at elevations between 5,315 to 9,022 feet. Taxonomic classes for this series include loamy-skeletal, mixed, superactive, frigid and shallow Typic Argixerolls. These soils occur on mountains with slopes of 15 to 75 percent. Coloration is brown and dark brown down to 25 inches deep. The mean annual precipitations are 16 to 24 in and mean annual temperature is 39 to 44 degrees Fahrenheit. The average frost-free season is about 40 to 70 days. The primary use of this soil is for forest land, recreation, watershed and wildlife habitat, and vegetation mainly consists of a forest canopy of singleleaf pinyon and scattered Jeffrey pine and an understory of antelope bitterbrush, mountain big sagebrush and bluegrass.

Plutos Series

Plutos loamy sand - Plutos family-Cashbaugh-Rock outcrop association, (0 to 30 percent slopes), Plutos family-Cashbaugh-Rock outcrop association, (30 to 50 percent slopes), Plutos family-Rock outcrop association, (0 to 30 percent slopes), Louie-Deetz-Delaney association – The Plutos series consists of moderately deep, somewhat excessively drained soils at elevations between 2,800 and 4,500 feet. Taxonomic classes for this series include ashy, glassy, nonacid and mesic Vitrandic Xeropsamments. These soils occur in collapse basins between expansion ridges of basalt lava flows with slopes of 0 to 30 percent. Coloration is dark grayish brown, light brownish gray and pale brown down to 23 inches deep. The mean annual precipitations are 10 to 16 inches, with snowfall of 18 to 24 inches, and mean annual temperature is 46 to 50 degrees Fahrenheit. The average frost-free season is 100 to 140 days. The primary use of this soil is for limited grazing, cultivation and recreational homes. Vegetation consist of western juniper, Manzanita, rabbitbrush, sagebrush, bitterbrush, wild currant, squaw bush, squirreltail, prairie junegrass, bluebunch wheatgrass, needlegrass and annual brome grasses.

Mountom Series

Mountom peaty muck, under perennial grasses and forbs, Conway-Dehy-Roundval-Artray association – The Mountom series consists of very deep, very poorly drained soils at elevations between 4,400 and 4,700 feet. Taxonomic classes for this series include loamy, mixed, euic and mesic Terric Haplohemists. These soils occur on hummocky alluvial fans with slopes of 0 to 5 percent. Coloration is black, dark gray, dark brown, dark olive gray and grayish brown down to 65 inches deep. The mean annual precipitations are 4 to 8 inches and mean annual temperature is 59 to 63 degrees Fahrenheit. The depth to the water table is 6 inches above the surface to 12 inches below the surface all year. The average frost-free season is about 140 to 180 days. The primary use of this soil is for livestock grazing and wildlife habitat. Vegetation is mainly rushes and sedges.

Pimogran Series

Pimogran very gravelly loamy coarse sand - - forest land, Granhogany-Elaero-Lockgate-Toejom association – The Pimogran series consists of shallow, excessively drained soils at elevations between 5,800 and 8,000 feet. Taxonomic classes for this series include sandy-skeletal, mixed, frigid and shallow Entic Haploxerolls. These soils occur on mountains with slopes of 15 to 75 percent. Coloration is light gray, grayish brown and dark brown down to 18 inches deep. The mean annual precipitations are 14 to 24 inches and the mean annual temperature is 39 to 45 degrees Fahrenheit. The average frost-free season is about 50 to 80 days. The primary use of this soil is for forest land, recreation, watersheds and

wildlife habitat. Vegetation is mainly a forest canopy that consists of singleleaf pinyon with an understory of curl-leaf mountain mahogany, snowberry, currant, mountain big sagebrush, antelope bitterbrush and bluegrass with some scattered Jeffrey pine.

Rock

Lithic Xeric Torriorthents-Xeric Torriorthents-Rock outcrop complex (15 to 50 percent slopes), Torriorthents-Haplargids-Rock outcrop complex (15 to 50 percent slopes) – No description available.

Roundval Series

Roundval-Dehy-Mountom complex (0 to 2 percent slopes) – The Roundval series consists of very deep, somewhat poorly and poorly drained soils that formed in alluvium from mixed rock sources at elevations between 4,400 to 4,700 feet. Taxonomic classes for this series include fine-loamy, mixed, superactive and mesic Cumulic Endoaquolls. These soils occur on alluvial fans with slopes of 0 to 5 percent. Coloration is dark gray, very dark grayish brown, black, very dark gray, olive gray, dark olive gray, gray and dark greenish gray down to 60 inches deep. The mean annual precipitations are 4 to 8 inches and mean annual temperature is 59 to 63 degrees Fahrenheit. The average frost-free season is about 140 to 160 days. The primary use of this soil is for permanent pasture, and vegetation mainly consists of mixed pasture grasses, rushes and sedges.

Rovana Series

Rovana gravelly loamy coarse sand, Brantel-Ulymeyer-Bairs association – The Rovana series consist of very deep, somewhat excessively drained soils at elevations between 4,500 to 6,200 feet. Taxonomic classes for this series include sandy, mixed and mesic Xeric Torriorthents. These soils occur on alluvial fans, fan terraces and valley floors with slopes of 0 to 15 percent. Coloration is grayish brown and pale brown down to 60 inches deep. The mean annual precipitations are 6 to 12 inches and mean annual temperature is 34 to 72 degrees Fahrenheit. The frost-free season is about 130 to 160 days. The primary use of this soil is for grazing, wildlife habitat and some recreation. Vegetation mainly consists of big sagebrush, Nevada ephedra and desert needlegrass.

Sabies Series

Sabies ashy loam (0 to 2 percent slopes), Sabies-Yaney complex (0 to 2 percent slopes), Blindspring-Seaman association – The Sabies series consists of very deep, well drained soils at elevations between 4,000 to 4,200 feet. Taxonomic classes for this series include ashy, glassy, calcareous and thermic Vitrandic Torriorthents. These soils occur on stream terraces and fan remnants with slopes of 0 to 2 percent. Coloration is light gray, pale yellow, yellowish brown and brownish gray down to 60 inches deep. The mean annual precipitations are 4 to 6 inches and mean annual temperature is 57 to 61 degrees Fahrenheit. The average frost-free season is about 140 to 180 days. The primary use of this soil is for rangeland and wildlife habitat, and vegetation mainly consists of black greasewood, shadscale and Indian ricegrass.

Seaman Series

Seaman sandy loam (0 to 2 percent slopes), Seaman-Yellowrock complex (2 to 5 percent slopes), Arizo-Maynard Lake-Penoyer association – The Seaman series consists of deep, well drained soils at elevations between 3,000 and 3,500 feet. Taxonomic classes for this series include coarse-loamy, mixed,

superactive, calcareous and thermic Typic Torriorthents. These soils occur on fan skirts, inset fans, fan aprons and fan piedmonts with slopes of 0 to 8 percent. Coloration is light brownish gray, dark grayish brown and light gray down to 60 inches deep. The mean annual precipitations are 3 to 8 inches and mean annual temperature is 57 to 62 degrees Fahrenheit. In areas where drainage has been altered by irrigation, depth to a seasonal water table is 3 to 6 feet. The average frost-free season is about 170 to 220 days. The primary use of this soil is for irrigated agriculture, rangeland and wildlife habitat. Vegetation mainly consists of creosotebush, white bursage, fourwing saltbush, big saltbush, shadscale, white burrobrush and big galleta.

Sherwin Series

Sherwin-Buscones families complex (0 to 15 percent slopes), Sherwin very cobbly loamy fine sand (5 to 15 percent slopes) – The Sherwin series consists of very shallow, well drained soils that formed from hard rhyolithic tuff at elevations between 5,300 to 7,300 feet. Taxonomic classes for this series include ashy, glassy, nonacid and mesic Lithic Xeric Torriorthents. These soils occur on volcanic flows with slopes of 5 to 30 percent. Coloration is light gray, brown, pinkish white and light brown down to 7 inches deep. The mean annual precipitations are 6 to 12 inches and mean annual temperature is 45 to 53 degrees Fahrenheit. The average frost-free season is about 125 to 150 days. The primary use of this soil is for grazing and wildlife habitat and vegetation mainly consists of big sagebrush, desert needlegrass, spiny hopsage and Nevada ephedra.

Shorthike Series

Shorthike very gravelly loamy coarse sand, Aspetill-Murain association – The Shorthike series consists of very deep, somewhat excessively drained soils at elevations between 6,500 and 8,300 feet. Taxonomic classes for this series include loamy-skeletal, mixed, superactive and frigid Pachic Haploxerolls. These soils occur on moraines with slopes of 30 to 50 percent. Coloration is grayish brown, very dark grayish brown, brown, dark brown, light yellowish brown and pale brown down to 60 inches deep. The mean annual precipitations are 16 to 24 inches and mean annual temperature is 40 to 44 degrees Fahrenheit. The average frost-free season is about 40 to 70 days. The primary use of this soil is for rangeland, recreation, watersheds and wildlife habitat. Vegetation mainly consists of mountain big sagebrush, antelope bitterbrush, snowberry, currant, Anderson's peachbrush, Indian ricegrass and basin wildrye.

Stumpatil Series

Stumpatil very gravelly coarse sandy loam - - forest land, Burnlake-Florand-Morscour association – the Stumpatil series consists of very deep, well drained soils at elevations between 8,000 to 9,500 feet. Taxonomic classes for this series include loamy-skeletal and isotic Umbric Xeric Haplocryalfs. These soils occur on moraines with slopes of 8 to 50 percent. Coloration is grayish brown, yellowish brown, pale brown and dark brown down to 60 inches deep. The mean annual precipitations are 30 to 55 inches and mean annual temperature is 36 to 39 degrees Fahrenheit. The average frost-free season is about 30 to 60 days. The primary use of this soil is for forest land, watershed, recreation and wildlife habitat. Vegetation is mainly a forest canopy of California red fir, lodgepole pine and western white pine with an understory of needlegrass, mountain brome, bluegrass and various forbs.

Toejom Series

Toejom very gravelly coarse sand- - forest land, Elaero-Granhogany-Lockgate-Pimogran association – The Toejom series consists of shallow, excessively drained soils at elevations between 5,800 to 8,000

feet. Taxonomic classes for this series include sandy-skeletal, mixed, mesic and shallow Typic Xerorthents. These soils occur on mountains with slopes of 15 to 75 percent. Coloration is dark brown and grayish brown down to 24 inches deep. The mean annual precipitations are 16 to 24 inches and mean annual temperature is 42 to 45 degrees Fahrenheit. The average frost-free season is about 50 to 80 days. The primary use of this soil is for watershed, forest land, recreation and wildlife habitat. Vegetation is mainly a forest canopy of singleleaf pinyon with an understory of antelope bitterbrush, mountain big sagebrush, curl-leaf mountain mahogany, bluegrass, desert needlegrass and scattered Jeffrey pine.

Torriorthents

Torriorthents-Haplargids-Rock outcrop complex (15 to 50 percent slopes) – No description available.

Torriorthentic Haploxerolls

Watterson family-Torriorthentic Haploxerolls complex, (5 to 15 percent slopes) – No description available.

Trespass Series

Trespass gravelly ashy loam, Lavaspring-Murain association – The Trespass series consists of very deep, somewhat poorly drained soils at elevations between 7,000 and 9,000 feet. Taxonomic classes for this series include loamy-skeletal, mixed and superactive Vitrandic Argicryolls. These soils occur on stream terraces with slopes of 0 to 4 percent. Coloration is dark gray, black, dark grayish brown, very dark brown, brown, dark brown, light gray and gray down to 60 inches deep. The mean annual precipitations are 16 to 25 inches and mean annual temperature is 40 to 44 degrees Fahrenheit. The apparent seasonal high water table is from 1.6 to 3.3 feet, which occurs between March and July. The average frost-free season is about 40 to 70 days. The primary use of this soil is for rangeland, watershed, recreation and wildlife habitat. Vegetation mainly consists of silver sagebrush, rush, sedge and muhly.

Ulymeyer Series

Watterson-Conway-Ulymeyer complex (0 to 15 slopes slopes), Ulymeyer gravelly loamy coarse sand, moist, (5 to 15 percent slopes, Ulymeyer-Rovana complex, slightly moist, (5 to 15 percent slopes), Haar-Rovana-Bairs association – The Ulymeyer series consists of very deep, somewhat excessively drained soils at elevations between 4,800 to 6,400 feet. Taxonomic classes for this series include sandy-skeletal, mixed and mesic Xeric Torriorthents. These soils occur on recent boulder granitic alluvial fans and fan terraces with slopes of 5 to 15 percent. Coloration is dark grayish brown, yellowish brown and dark brown down to 60 inches deep. The mean annual precipitations are 8 to 12 inches and mean annual temperature is 33 to 72 degrees Fahrenheit. The average frost-free season is about 130 to 150 days. The primary use of this soil is for grazing and wildlife habitat, and vegetation mainly consists of big sagebrush and desert needlegrass.

No description(s) available:

- *Vitrandic Cryopsamments (0 to 15 percent slopes)*
- *Vitrandic Cryorthents, pumiceous-Vitrandic Cryorthents-Vitrandic Xerothents, pumiceous complex (0 to 15 percent slopes)*

- *Vitrandic Haploxerolls-Vitrandic Xerothents, ashy, warm complex (15 to 30 percent slopes)*
- *Vitrandic Haploxerolls (0 to 15 percent slopes)*
- *Vitrandic Haploxerolls-Vitrandic Xeropsamments, warm complex (15 to 30 percent slopes)*
- *Vitrandic Torripsamments-Avalmount-Rock outcrop complex (50 to 75 percent slopes)*
- *Vitrandic Xeropsamments (30 to 60 percent slopes)*
- *Vitrandic Xeropsamments, warm (0 to 15 percent slopes)*
- *Vitrandic Xeropsamments, warm-Rock outcrop complex (15 to 60 percent slopes)*
- *Vitrandic Xeropsamments, warm-Vitrandic Xerorthents, ashy, warm complex (0 to 15 percent slopes)*
- *Vitrandic Xeropsamments-Corbett family-Rock outcrop complex (15 to 30 percent slopes)**
- *Vitrandic Xerorthents, pumiceous, warm-Vitrandic Xerothents complex (0 to 30 percent slopes)*
- *Vitrandic Xerorthents, pumiceous, warm-VitrandicHaploxerolls, pumiceous-Vitrandic Xerothents, ashy, warm complex (0 to 15 percent slopes)*
- *Vitrandic Xerorthents, pumiceous-Vitrandic Xeropsamments comples (0 to 15 percent slopes)*
- *Vitrandic Xerorthents, pumiceous-Vitrandic Xeropsamments-Rock outcrop complex (30 to 60 percent slopes)*

Warrior Series

Warrior gravelly loamy sand,(2 to 8 percent slopes), Warrior very gravelly sandy loam(5 to 15 percent slopes), Warrior-Xerofluvents association, (0 to 4 percent slopes), Rovana-Ulymeyer association – The Warrior series consists of very deep, well drained soils at elevations between 5,400 to 7,000 feet. Taxonomic classes for this series include loamy-skeletal, mixed, superactive, calcareous and mesic Xeric Torriorthents. These soils occur on alluvial fans with slopes of 0 to 15 percent. Coloration is dark brown, pale brown and yellowish brown down to 60 inches deep. The mean annual precipitations are 8 to 12 inches and mean annual temperature is 45 to 50 degrees Fahrenheit. The average frost-free season is about 110 to 145 days. The primary use of this soil is for grazing and wildlife habitat and vegetation mainly consists of big sagebrush, Douglas rabbitbrush, spiny hopsage and antelope bitterbrush.

Watterson Series

Conway-Aquents-Watterson, Conway-Watterson complex (0 to 2 percent slopes), Watterson family - Torriorthentic Haploxerolls complex (5 to 15 percent slopes), Watterson gravely loamy sand (0 to 4 percent slopes), Watterson gravely loamy sand, wet (0 to 4 percent slopes), Watterson sandy loam (0 to 4 percent slopes) – The Watterson series consists of very deep and well drained soils that formed in mixed alluvium influenced by volcanic ash and in some small areas granitic alluvium at elevations between 5,500 to 7,500 feet. Taxonomic classes for this series include loamy-skeletal, mixed, superactive and mesic Pachic Haploxerolls. These soils occur on mountains with slopes of alluvial fans.

Coloration is brown, very dark grayish brown, light yellowish brown and dark yellowish brown down to 60 inches deep. The mean annual precipitations are 8 to 12 inches and mean annual temperature 45 to 55 degrees Fahrenheit. The average frost-free season is about 105 to 140 days. The primary use of this soil is for grazing and wildlife habitat and vegetation mainly consists of sagebrush, antelope bitterbrush, Indian ricegrass and western needlegrass.

Xeric Haplodurids

Xeric Haplodurids (2 to 9 percent slopes) – No description available.

Xeric Torriorthents

Lithic Xeric Torriorthents-Xeric Torriorthents-Rock outcrop complex (15 to 50 percent slopes) – No description available.

Xerofluvents

Alamedawell-Conway-Xerofluvents complex (0 to 4 percent slopes), *Fluvaquentic Endoaquolls-Xerofluvents complex (0 to 4 percent slopes), Warrior-Xerofluvents association (0 to 4 percent slopes)* – No description available.

Yaney Series

Yaney ashy, sandy loam – The Yaney series consists of very deep, well drained soils at elevations between 4,000 to 4,200 feet. Taxonomic classes for this series include ashy, glassy, calcareous and thermic Vitrandic Torrifluvents. These soils occur on stream terraces with slopes of 0 to 2 percent. Coloration is light gray, yellowish brown and pale brown down to 110 inches deep. The mean annual precipitations are 4 to 6 inches and mean annual temperature is 57 to 61 degrees Fahrenheit. The average frost-free season is about 140 to 180 days. The primary use of this soil is for rangeland and wildlife habitat, and vegetation mainly consists of shadscale, black greasewood and Indian ricegrass.

Yellowhills Series

Yellowhills ashy sandy loam – The Yellowhills series consists of very deep, well drained soils at elevations between 1600 to 1900 meters. Taxonomic classes for this series include ashy, glassy, mesic Vitritorrandic Haploxerolls. These soils formed in alluvium derived from rocks high in volcanic ash with slopes of 0 to 2 percent. Coloration is pale brown, grayish brown, down to 152 cm deep. The mean annual precipitations are 250 to 300 mm and mean annual temperature is 6 to 7 degrees Celsius. The average frost-free season is about 80 to 100 days. The primary use of this soil is for rangeland and wildlife habitat, and vegetation mainly consists of Idaho fescue, Thurber's needlegrass, and basin big sagebrush.

Yellowrock Series

Yellowrock very gravelly loamy sand, Arizo-Bluewing-Cliffdown-Yermo association – The Yellowrock series consists of very deep, somewhat excessively drained, sandy soils at elevations between 1,200 and 4,500 feet. Taxonomic classes for this series include sandy, mixed and thermic Typic Torriorthents. These soils occur on alluvial fans, fan terraces and flood plains with slopes of 0 to 15 percent. Coloration is pale brown, light brownish gray and dark brown down to 60 inches deep. The mean annual precipitations are 4 to 6 inches and mean annual temperature is 55 to 65 degrees Fahrenheit. The average frost-free

season is about 150 to 300 days. The primary use of this soil is for wildlife habitat and recreation. Vegetation consists mainly of creosotebush, white bursage and desert holly; alkali areas have vegetation consisting of allscale saltbush, Mojave seablit and shadscale.

Yermo

Yermo cobbly sandy loam – The Yermo series consists of deep, well drained soils at elevations between 2,300 to 4,200 feet. Taxonomic classes for this series include loamy-skeletal, mixed, superactive, calcareous and thermic Typic Torriorthents. These soils occur on broad, alluvial fans and on older, faulted or uplifted uplands or valley floors with slopes of 0 to 50 percent. Coloration is pale brown, dark brown and light gray down to 60 inches deep. The mean annual temperature is 57 to 64 degrees Fahrenheit. The average frost-free season is about 210 to 255 days. The primary use of this soil is for wildlife habitat and homesites, and vegetation mainly consists of creosotebush, white bursage, scattered yucca and Joshua tree and annual grasses and forbs.

1.5. DOUGLAS COUNTY

Cagle Series

Duco-Cagle-Nosrac association – The Cagle series consists of moderately deep, well drained soils that formed in colluvium and residuum derived from andesitic rock or tuff-breccia at elevations between 4,019 to 7,005 feet. Taxonomic classes for this series include fine, smectitic, and mesic Aridic Argixerolls. These soils occur on hills and mountains with slopes of 2 to 50 percent. Coloration is grayish brown, very dark grayish brown, dark grayish brown, brown, and olive brown down to 28 in deep. The mean annual precipitations are 10 to 16 in and mean annual temperature is 46 to 50 degrees Fahrenheit. The average frost-free season is about 80 to 110 days. The primary use of this soil is for forest land and wildlife habitat, and vegetation mainly consists of a forest canopy of singleleaf pinyon and Utah juniper with an understory of Wyoming big sagebrush, antelope bitterbrush, cheatgrass, and bottlebrush squirreltail.

Canfire Series

Canfire-Crispy-Rock outcrop association – The Canfire series consists of shallow, well drained soils that formed in residuum and colluvium derived from metamorphic rocks at elevations between 5,479 and 8,891 feet. Taxonomic classes for this series include loamy-skeletal, mixed, superactive, and mesic Lithic Argixerolls. These soils occur on mountains with slopes of 30 to 75 percent. Coloration is grayish brown, very dark grayish brown, grayish brown, light yellowish brown and olive brown down to 17 in deep. The mean annual precipitations are 14 to 23.5 in and mean annual temperature is 40 to 45 degrees Fahrenheit. The average frost-free season is about 50 to 80 days. The primary use of this soil is for forest land, recreation, watershed, and wildlife habitat, and vegetation mainly consists of a forest canopy of singleleaf pinyon with an understory of antelope bitterbrush, mountain big sagebrush, currant, bluegrass, and desert needlegrass. Some areas have scattered Jeffrey pine.

Cassiro Series

Indian Creek variant-Cassiro-Puett association, Indian Creek-Reno-Cassiro association – The Cassiro series consists of deep or very deep, well drained soils that formed in alluvium derived from mixed rocks or in colluvium derived from quartzite and conglomerate at elevations between 4,495 and 7,497 feet. Taxonomic classes for this series include clayey-skeletal, smectitic and mesic Aridic Argixerolls. These soils occur on fan remnants, inset fans, and hills with slopes of 2 to 50 percent. Coloration is brown, very

dark grayish brown, dark brown and dark reddish brown down to 45 in deep. The mean annual precipitations are 8 to 12 in and mean annual temperature is 46 to 50 degrees Fahrenheit. The geographic climate is semiarid with an average frost-free season is about 100 to 120 days. The primary use of this soil is for rangeland, recreation, and urban development, and vegetation mainly consists of horsebrush, Anderson's peachbrush, and Wyoming big sagebrush.

Crispy Series

Canfire-Crispy-Rock outcrop association – The Crispy series consists of shallow, well drained soils that formed in residuum and colluvium derived from metamorphic rocks at elevations between 5,512 and 6,922 feet. Taxonomic classes for this series include loamy-skeletal, mixed, superactive, frigid and shallow Typic Argixerolls. These soils occur on mountains with slopes of 30 to 75 percent. Coloration is grayish brown, very dark grayish brown, pale brown and brown down to 15 in deep. The mean annual precipitations are 14 to 23.5 in and mean annual temperature is 39 to 45 degrees Fahrenheit. The average frost-free season is about 50 to 80 days. The primary use of this soil is for forest land, recreation, watershed, and wildlife habitat, and vegetation mainly consists of a forest canopy of singleleaf pinyon with an understory of antelope bitterbrush, mountain big sagebrush, currant, and bluegrass. Some areas have scattered Jeffrey pine.

Cradlebaugh Series

Cradlebaugh clay loam (slightly saline-alkali) – The Cradlebaugh series consists of deep, poorly drained soils that formed in alluvium from mixed rock sources at elevations between 4,500 and 4,800 feet. Taxonomic classes for this series include fine-loamy, mixed, superactive, calcareous, and mesic Duric Endoaquolls. These soils occur on stream terraces with slopes of 0 to 2 percent. Coloration is very dark brown, gray, dark grayish brown, dark gray, light gray, grayish brown, very dark grayish brown, olive gray, light olive gray, and olive down to 65 inches deep. The mean annual precipitations are 10 to 12 inches and mean annual temperature is 48 to 49 degrees Fahrenheit. The water table occurs from 20 to 20 inches deep, which occurs in late winter and spring, and the average frost-free season is about 90 to 105 days. The primary use of this soil is for meadow hay and pasture, and vegetation mainly consists of clover, fecues, foxtail, saltgrass and bassia. Vegetation in poorly drained areas consists of sedges, redtop, bluegrass, saltgrass, and native clover. Vegetation in strongly alkali areas consists of greasewood with an understory of saltgrass and foxtail.

Dangberg Series

Dangberg clay (slightly saline-alkali) (strongly saline-alkali) (wet) (wet, strongly alkali) – The Dangberg series consists of moderately deep to a duripan, poorly drained soils that formed in alluvium derived mainly from granitic rock at elevations between 4,626 and 5,020 feet. Taxonomic classes for this series include fine, smectitic, and mesic Aquic Natrargidic Natridurids. These soils occur on stream terraces and inset fans with slopes of 0 to 2 percent. Coloration is gray, very dark brown, light brownish gray, dark grayish brown, light grayish gray, dark brown, pale brown, and brown down to 60 inches deep. The mean annual precipitations are 8 to 10 in and mean annual temperature is 46 to 50 degrees Fahrenheit. The apparent seasonal high water table is from 3.5 to 5 feet deep, which occurs from December to May, and the average frost-free season is about 90 to 110 days. The primary use of this soil is for irrigated pasture and urban development, and vegetation mainly consists of inland saltgrass, clover, alkali bluegrass, carex, souroc, and plantain.

Devada Series

Devada-Koontz association, Duco-Devada-Nosrac association – The Devada series consists of shallow, well drained soils that formed in residuum derived from volcanic rocks with additions of loess and volcanic ash at elevations between 4,396 and 7,513 feet. Taxonomic classes for this series include clayey, smectitic, and mesic Lithic Argixerolls. These soils occur on plateaus, mountains, and hills with slopes of 0 to 50 percent. Coloration is grayish brown, very dark grayish brown, brown, and dark brown down to 13 in deep. The mean annual precipitations are 10 to 14 in and mean annual temperature is 45 to 48 degrees Fahrenheit. The average frost-free season is about 60 to 110 days. The primary use of this soil is for rangeland and wildlife habitat, and vegetation mainly consists of low sagebrush, bottlebrush squirreltail, Sandberg's bluegrass, and Thurber's needlegrass.

Duco Series

Duco-Cagle-Nosrac association, Duco-Devada-Nosrac association – The Duco series consists of shallow, well drained soils that formed in colluvium and residuum derived dominantly from volcanic rocks at elevations between 4,003 and 8,022 feet. Taxonomic classes for this series include loamy-skeletal, mixed, superactive, and mesic Lithic Argixerolls. These soils occur on structural benches, hills, and mountains with slopes of 4 to 75 percent. Coloration is grayish brown, very dark brown, dark grayish brown, brown, and dark brown down to 19 in deep. The mean annual precipitations are 10 to 16 in and mean annual temperature is 43 to 52 degrees Fahrenheit. The average frost-free season is about 70 to 115 days. The primary use of this soil is for forest land, livestock grazing, and wildlife habitat, and vegetation mainly consists of a forest canopy of singleleaf pinyon and Utah juniper with an understory of Wyoming big sagebrush, antelope bitterbrush, Currant ssp., Thurber's needlegrass, bluebunch wheatgrass, Sandberg's bluegrass, and bottlebrush squirreltail.

East Fork Series

East Fork clay loam, East Fork loam – The East Fork series consists of very deep, moderately well drained soils that formed in alluvium derived from mixed sources at elevations between 3,901 to 4,800 feet. Taxonomic classes for this series include fine-loamy, mixed, superactive, and mesic Oxyaquic Haploxerolls. These soils occur on flood plains and low stream terraces with slopes of 0 to 2 percent. Coloration is grayish brown, dark grayish brown and very dark grayish brown down to 60 in deep. The mean annual precipitations are 4 to 8 in and mean annual temperature is 52 to 55 degrees Fahrenheit. The apparent seasonal high water table is from 3 to 5 feet deep, which occurs from December to August, and the average frost-free season is about 110 to 140 days. The primary use of this soil is for irrigated cropland, wildlife habitat, and some livestock grazing. Vegetation is cropland areas consist of alfalfa, small grains, and grass-legume. Vegetation is rangeland areas mainly consist of basin big sagebrush and basin wildrye. Saline-sodic areas consist of black greasewood and inland saltgrass.

Fettic Series

Fettic clay, strongly saline, Fettic very fine sandy loam – The Fettic series consists of very deep, moderately well drained soils that formed in alluvium derived from mixed sources at elevations between 4,495 and 5,118 feet. Taxonomic classes for this series include fine-silty, mixed, superactive, and mesic Aridic Natrixerolls. These soils occur on low stream terraces with slopes of 0 to 2 percent. Coloration is gray, very dark gray, grayish brown, very dark grayish brown, light brownish gray, dark grayish brown, pale brown and dark gray down to 62 in deep. The mean annual precipitations are 8 to 10 in and mean annual temperature is 46 to 52 degrees Fahrenheit. The apparent seasonal high water table is from 4 to

59 in deep, which occurs from December to May, and the average frost-free season is about 90 to 110 days. The primary use of this soil is for livestock grazing, and vegetation mainly consists of inland saltgrass, black greasewood, basin big sagebrush, rubber rabbitbrush, alkali sacaton, beardless wildrye, and basin wildrye.

Gardnerville Series

Gardnerville clay, Gardnerville clay loam, Gardnerville clay loam (slightly saline-alkali) – The Gardnerville series consists of very deep, moderately well drained soils that formed in alluvium derived from mixed rocks at elevations between 4,600 to 4,800 feet. Taxonomic classes for this series include fine, smectitic, and mesic Durinodic Xeric Natrargids. These soils occur on stream terraces with slopes of 0 to 2 percent. Coloration is gray, dark gray, grayish brown, very dark grayish brown, brown, pale brown, dark brown, yellow, and yellowish brown down to 67 inches deep. The mean annual precipitations are 8 to 10 inches and mean annual temperature is 46 to 51 degrees Fahrenheit. The seasonal high water table is from 4 to 5 feet deep, which occurs from December to May, and the average frost-free season is about 90 to 110 days. The primary use of this soil is for livestock grazing and urban development, and crop vegetation mainly consists of alfalfa hay, small grains, and grass-legume hay. Rangeland vegetation mainly consists of basin big sagebrush, rubber rabbitbrush, black greasewood, bottlebrush squirreltail, and basin wildrye.

Godecke Series

Godecke fine sandy loam– The Godecke series consists of very deep, moderately well drained soils at elevations between 4,650 and 4,750 feet. Taxonomic classes for this series include fine-loamy, mixed, superactive, and mesic Durinodic Xeric Natrargids. These soils occur on stream terraces with slopes of 0 to 2 percent. Coloration is pale brown to grayish brown in the top 36 inches and pale yellow to olive down to 68 inches deep. The mean annual precipitations are 8 to 10 inches and mean annual temperature is 46 to 51 degrees Fahrenheit. The apparent seasonal high water table is from 3.5 to 5 feet deep, which occurs from December to May, and the average frost-free season is about 90 to 110 days. The primary use of this soil is for rangeland, and vegetation mainly consists of rubber rabbitbrush, black greasewood and inland saltgrass with scattered spiny hopsage, fourwing saltbush, basin big sagebrush and basin wildrye.

Haybourne Series

Haybourne fine sandy loam (gravelly substratum, 0 to 2 percent slopes), Haybourne sand (0 to 4 percent slopes) – The Haybourne series consists of very deep, well drained soils that formed in alluvium derived from granitic rocks or from mixed sources at elevations between 4,495 and 6,601 feet. Taxonomic classes for this series include coarse-loamy, mixed, superactive, and mesic Xeric Haplocambids. These soils occur on inset fans, alluvial fans, fan remnants, ballenas, lake terraces, fan skirts, and fan aprons with slopes of 0 to 30 percent. Coloration is pale brown, dark brown, and light brownish gray down to 62 in deep. The mean annual precipitations are 8 to 12 in and mean annual temperature is 46 to 52 degrees Celsius. The geographic climate is semiarid with an average frost-free season of about 80 to 120 days. The primary use of this soil is for irrigated cropland, rangeland, recreation, and urban development, and vegetation mainly consists of Wyoming big sagebrush, Douglas rabbitbrush, Nevada ephedra, Anderson's peachbrush, bottlebrush squirreltail, desert needlegrass, and Indian ricegrass.

Henningsen Series

Henningsen gravelly loam, Henningsen loam (wet), Henningsen variant loam– The Henningsen series consists of very deep, moderately well drained soils that formed in alluvium derived from mixed sources at elevations between 4,600 to 4,750 feet. Taxonomic classes for this series include coarse-loamy over sandy or sandy-skeletal, mixed, superactive, and mesic Oxyaquic Haploxerolls. These soils occur on flood plains with slopes of 0 to 2 percent. Coloration is grayish brown and very dark grayish brown down to 60 inches deep. The mean annual precipitations are 8 to 10 inches and mean annual temperature is 46 to 51 degrees Fahrenheit. The apparent seasonal high water table is between 2.5 and 3.3 feet deep, which occur from December to May, and the average frost-free season is about 90 to 110 days. The primary use of this soil is for irrigated pasture, hayland, rangeland, and urban development. Irrigated crop vegetation mainly consists of alfalfa and legume-grasses mixtures, and rangeland vegetation consists of willows, cottonwood, sedges, and Juncus sp.

Holbrook Series

Holbrook very stony sandy loam (4 to 15 percent slopes) – The Holbrook series consists of very deep, well drained soils that formed in alluvium derived from mixed rocks at elevations between 4,396 and 7,201 feet. Taxonomic classes for this series include loamy-skeletal, mixed, superactive, and mesic Torriorthentic Haploxerolls. These soils occur on alluvial fans, fan aprons, and inset fans in fan piedmont landscapes with slopes of 0 to 15 percent. Coloration is gray, very dark grayish brown, light brownish gray and dark grayish brown down to 61 in deep. The mean annual precipitations are 8 to 14 in and mean annual temperature is 46 to 52 degrees Celsius. The average frost-free season is about 80 to 110 days. The primary use of this soil is for livestock grazing, irrigated cropland, urban development, and wildlife habitat, and rangeland vegetation mainly consists of Wyoming big sagebrush, antelope bitterbrush, Thurber's needlegrass, Sandberg's bluegrass, bottlebrush squirreltail, and basin wildrye.

Hussman Series

Hussman clay, Hussman clay loam (strongly saline-alkali), Hussman silty clay loam – The Hussman series consists of very deep, moderately well drained soils that formed in alluvium derived from mixed sources at elevations between 4,600 and 4,800 feet. Taxonomic classes for this series include fine, smectitic, and mesic Torrertic Haploxerolls. These soils occur on low stream terraces with slopes of 0 to 2 percent. Coloration is grayish brown, very dark grayish brown, brown, dark grayish brown, light brownish gray, and brown down to 60 inches deep. The mean annual precipitations are 8 to 10 inches and mean annual temperature is 46 to 51 degrees Fahrenheit. The apparent seasonal high water table is between 2.5 and 4 feet, and the average frost-free season is about 90 to 110 days. The primary use of this soil is for irrigated cropland and livestock grazing, and crop vegetation mainly consists of alfalfa hay, small grains, and grass-legume pasture. Rangeland vegetation mainly consists of basin big sagebrush and grass with black greasewood, and inland saltgrass in saline-sodic areas.

Indian Creek Series

Indian Creek gravelly fine sandy loam (4 to 15 percent slopes), Indian Creek sandy loam (0 to 4 percent slopes), Indian Creek very cobbly loam (2 to 8 percent slopes), Indian Creek variant-Cassiro-Puett association, Indian Creek-Reno-Cassiro association – The Indian Creek series consists of shallow to a duripan, well drained soils that formed in alluvium derived from mixed igneous rocks at elevations between 4,511 and 6,004 feet. Taxonomic classes for this series include clayey, smectitic, mesic, and shallow Xeric Argidurids. These soils occur on high stream terraces and dissected fan remnants with

slopes of 0 to 15 percent. Coloration is gray, very dark grayish brown, dark brown, brown, yellowish brown, very pale brown, light yellowish brown, light gray, dark grayish brown, and light brownish gray down to 64 in deep. The mean annual precipitations are 8 to 12 inches and mean annual temperature is 9 to 11 degrees Celsius. The average frost-free season is about 80 to 110 days. The primary use of this soil is for livestock grazing, recreation, urban development, and wildlife habitat, and native vegetation mainly consists of low sagebrush, cheatgrass, bottlebrush squirreltail, Sandberg's bluegrass, and milkvetch.

Job Series

Job loam, Job variant silt loam – The Reno series consists of very deep, moderately well drained soils that formed in alluvium derived from mixed sources at elevations between 4,593 and 5,397 feet. Taxonomic classes for this series include fine-loamy, mixed, superactive, calcareous, and mesic Oxyaquic Torrifluvents. These soils occur on flood plains and flood plain steps with slopes of 0 to 2 percent. Coloration is light brownish gray, very dark grayish brown, dark grayish brown and grayish brown down to 60 in deep. The mean annual precipitations are 8 to 12 in and mean annual temperature is 8 to 10.5 degrees Celsius. The apparent seasonal high water table is between 90 and 152 cm deep and the average frost-free season is about 90 to 140 days. The primary use of this soil is for livestock grazing and irrigated cropland. Crop vegetation mainly consists of alfalfa or alfalfa-grass hay, and rangeland vegetation mainly consists of rubber rabbitbrush, sweetclover, bluegrass, sedges, strawberry clover, inland saltgrass, and annual forbs.

Kimmerling Series

Kimmerling clay loam, Kimmerling loam (wet) – The Kimmerling series consists of very deep, poorly drained soils that formed in alluvium derived from mixed sources at elevations between 4,495 and 5,610 feet. Taxonomic classes for this series include fine-loamy, mixed, superactive, and mesic Cumulic Endoaquolls. These soils occur on flood plains and swales with slopes of 0 to 2 percent. Coloration is dark gray, very dark gray, gray, and black down to 60 in deep. The mean annual precipitations are 4 to 10 in and mean annual temperature is 8 to 10 degree Celsius. The apparent seasonal high water table is within 50 cm deep, which occurs from December to May, and the average frost-free season is about 90 to 120 days. The primary use of this soil is for pasture and improved irrigated meadows, and vegetation mainly consists of sedges, rushes, native clovers, and inland saltgrass.

Koontz Series

Devada-Koontz association – The Koontz series consists of very shallow or shallow, well drained soils that formed in residuum and colluvium derived from metavolcanic or metamorphic rocks at elevations between 4,800 and 7,612 feet. Taxonomic classes for this series include loamy-skeletal, mixed, superactive, mesic, and shallow Aridic Argixerolls. These soils occur on hills and mountains with slopes of 8 to 75 percent. Coloration is grayish brown, very dark grayish brown, dark brown, and brown down to 14 in deep. The mean annual precipitations are 10 to 14 in and mean annual temperature is 7 to 11 degrees Celsius. The average frost-free season is about 80 to 120 days. The primary use of this soil is for livestock grazing and wildlife habitat, and vegetation mainly consists of singleleaf pinyon and Utah juniper with an understory of big sagebrush, antelope bitterbrush, and bottlebrush squirreltail.

Nevador Series

Nevador fine sandy loam (0 to 2 percent slopes) - The Nevador series consists of very deep, well drained soils that formed in alluvium derived from mixed rocks, loess, and volcanic ash. Nevador soils are on fan remnants. Slopes are 0 to 15 percent. Taxonomic classes for this series include fine-loamy, mixed, superactive, and mesic Durinodic Xeric Haplargids. These soils are fan remnants that typically occur on summit positions. These soils formed in alluvium derived from mixed rocks, loess, and volcanic ash. Slopes are 0 to 15 percent, and elevations range from 1,375 to 1,955 meters. The climate is semiarid with cool, moist winters and warm, dry summers. The mean annual precipitation is 200 to 250 mm, the mean annual temperature is 7 to 10 degrees Celsius. These soils are well drained with medium or high surface runoff, moderately slow permeability, and moderately high saturated hydraulic conductivity. The primary uses of these soils are rangeland and wildlife habitat. Vegetation mainly consists of Wyoming big sagebrush, spiny hopsage, needlegrass, bluebunch wheatgrass, and Indian ricegrass.

Nosrac Series

Duco-Cagle-Nosrac association, Duco-Devada-Nosrac association – The Nosrac series consists of very deep, well drained soils that formed in colluvium and residuum derived from andesite and schist at elevations between 5,003 to 7,612 feet. Taxonomic classes for this series include loamy-skeletal, mixed, superactive, and mesic Aridic Argixerolls. These soils occur on hills and mountains and typically occur on north-facing backslopes with slopes of 15 to 75 percent. Coloration is grayish brown, very dark grayish brown, brown, and olive down to 60 in deep. The mean annual precipitations are 12 to 16 in and mean annual temperature is 7 to 10 degrees Celsius. The geographic climate is semiarid with an average frost-free season of about 80 to 100 days. The primary use of this soil is for forest land, livestock grazing, and wildlife habitat, and vegetation mainly consists of a forest canopy of singleleaf pinyon and Utah juniper with an understory of Wyoming big sagebrush, prickly currant, Sandberg's bluegrass, cheatgrass, and bottlebrush squirreltail.

Ormsby Series

Ormsby gravelly loamy coarse sand, Ormsby loamy sand– The Ormsby series consists of very deep, moderately well drained soils that formed in alluvium derived dominantly from granite at elevations between 4,600 and 4,800 feet. Taxonomic classes for this series include mixed and mesic Haploduridic Torripsamments. These soils occur on low stream terraces with slopes of 0 to 2 percent. Coloration is dark gray, very dark brown, dark grayish brown, grayish brown, very dark grayish brown, light brownish gray, and pale brown down to 60 inches deep. The mean annual precipitations are 8 to 10 inches and mean annual temperature is 46 to 51 degree Fahrenheit. The apparent seasonal high water table is between 3 and 5 feet deep, which occur from December to May, and the average frost-free season is about 90 to 110 days. The primary use of this soil is for irrigated cropland, urban development, and livestock grazing. Crop vegetation mainly consists of alfalfa for hay, grass-legume hay, and small grains, and rangeland vegetation mainly consists of basin big sagebrush, rubber rabbitbrush, Indian ricegrass, and bottlebrush squirreltail.

Prey Series

Prey gravelly loamy sand (0 to 4 percent slopes) – The Prey series consists of moderately deep, well drained soils that formed in alluvium mainly from granitic rocks at elevations between 4,600 and 5,100 feet. Taxonomic classes for this series include coarse-loamy, mixed, superactive, and mesic Haploxeralfic Argidurids. These soils occur on alluvial fans and terraces with slopes of 0 to 15 percent. Coloration is

light gray, very pale brown, yellowish brown, to very dark grayish brown down to 60 inches deep. The mean annual precipitations are 8 to 16 inches and mean annual temperature is 49 to 51 degrees Fahrenheit. The geographic climate is semiarid with an average frost-free season of about 95 to 120 days. The primary use of this soil is for rangeland, and vegetation mainly consists of big sagebrush, antelope bitterbrush, rabbitbrush, squirreltail, needlegrass and Mormon tea.

Puett Series

Indian Creek variant-Cassiro-Puett association – The Puett series consists of shallow, well drained soils that formed in residuum and colluvium derived from tuff and tuffaceous sedimentary rocks at elevations between 4,495 and 7,218 feet. Taxonomic classes for this series include loamy, mixed, superactive, calcareous, mesic, and shallow Xeric Torriorthents. These soils occur on pediments, hills, mountains, and plateaus with slopes of 4 to 75 percent. Coloration is light brownish gray, dark grayish brown, yellowish brown and very pale brown down to 13 in deep. The mean annual precipitations are 8 to 10 in and mean annual temperature is 46 to 50 degrees Fahrenheit. The geographic climate is semiarid with an average frost-free season is about 100 to 120 days. The primary use of this soil is for livestock grazing, wood products, and wildlife habitat, and vegetation mainly consists of Wyoming big sagebrush, black sagebrush, gray rabbitbrush, Utah juniper, Douglas rabbitbrush, Indian ricegrass, and basin wildrye.

Reno Series

Indian Creek-Reno-Cassiro association, Reno gravelly sandy loam (2 to 8 percent slopes) – The Reno series consists of moderately deep, well drained soils that formed in mixed alluvium at elevations between 4,400 to 6,300 feet. Taxonomic classes for this series include fine, smectitic, and mesic Abruptic Xeric Argidurids. These soils occur on alluvial fans, pediments and river terraces with slopes of 0 to 15 percent. Coloration is light brownish gray, very dark grayish brown, light gray, dark brown, grayish brown, dark yellowish brown pale brown, light yellowish brown, very pale brown, and pale brown down to 60 inches deep. The mean annual precipitations are 8 to 14 inches and mean annual temperature is 49 to 53 degrees Fahrenheit. The geographic climate is semiarid with an average frost-free season is about 80 to 130 days. The primary use of this soil is for rangeland, urban development, and wildlife habitat, and vegetation mainly consists of low sagebrush, big sagebrush, bitterbrush, cheatgrass, bottlebrush squirreltail, horsebrush, rabbitbrush, Sandberg bluegrass, and some fescue and juniper.

Rock Series

Canfire-Crispy-Rock outcrop association – No description available.

Saralegui Series

Saralegui sand (2 to 8 percent slopes) – The Saralegui series consists of deep, well drained soils that formed in alluvium at elevations between 4,500 and 6,000 feet. Taxonomic classes for this series include coarse-loamy, mixed, superactive, and mesic Xeric Haplargids. These soils occur on lake terraces and alluvial fans with slopes of 0 to 60 percent. Coloration is light gray, dark gray, light brownish gray, very dark grayish brown, dark grayish brown, and brown down to 61 inches deep. The mean annual precipitations are 6 to 12 inches and mean annual temperature is 48 to 50 degrees Fahrenheit. The geographic climate is semiarid with an average frost-free season of about 90 to 120 days. The primary use of this soil is for grazing as unimproved range, and vegetation mainly consists of sagebrush, some bitterbrush, with an understory of Sandberg bluegrass, Indian ricegrass, and squirreltail.

Settlemeyer Series

Settlemeyer clay loam – The Settlemeyer series consists of very deep, poorly drained soils that formed in alluvium from mixed rocks at elevations between 4,511 and 6,315 feet. Taxonomic classes for this series include fine-loamy, mixed, superactive, and mesic Fluvaquentic Endoaquolls. These soils occur on flood plains and inset fans with slopes of 0 to 4 percent. Coloration is very dark gray, dark gray, olive gray, light brownish gray, dark grayish brown, and dark brown down to 60 in deep. The mean annual precipitations are 4 to 12 in and mean annual temperature is 39 to 46 degrees Fahrenheit. The geographic climate is semiarid with an average frost-free season of about 100 to 130 days. The primary use of this soil is for meadow hay, livestock grazing, and wildlife habitat, and vegetation mainly consists of creeping wildrye, basin wildrye, and sedges. Saltgrass and alkali sacaton dominate in salt and sodium affected areas.

Shree Series

Shree very gravelly loam (2 to 8 percent slopes), Shree very stony loam (4 to 15 percent slopes) – The Shree series consists of very deep, well drained soils that formed in alluvium derived from mixed igneous and metamorphic rocks at elevations between 5,485 and 7,808 feet. Taxonomic classes for this series include loamy-skeletal, mixed, superactive, and mesic Aridic Argixerolls. These soils occur on inset fans, alluvial fans, and fan remnants with slopes of 2 to 15 percent. Coloration is dark grayish brown, very dark grayish brown, grayish brown, brown, dark brown, yellowish brown, dark yellowish brown, and light yellowish brown down to 60 in deep. The mean annual precipitations are 10 to 14 in and mean annual temperature is 46 to 50 degrees Fahrenheit. The geographic climate is semiarid with an average frost-free season of about 80 to 115 days. The primary use of this soil is for livestock grazing and wildlife habitat, and vegetation mainly consists of Wyoming big sagebrush, antelope bitterbrush, Thurber's needlegrass, and basin wildrye.

Springmeyer Series

Springmeyer gravelly loam, 2 to 8 percent slopes, Updike-Springmeyer association – The Springmeyer series consists of very deep, well drained soils that formed in alluvium derived from mixed igneous rocks at elevations between 4,003 and 7,500 feet. Taxonomic classes for this series include fine-loamy, mixed, superactive, and mesic Aridic Argixerolls. These soils occur on fan remnants and inset fans with slopes of 0 to 50 percent. Coloration is brown, dark brown, dark grayish brown, and pale brown down to 62 inches deep. The mean annual precipitations are 8 to 14 in and mean annual temperature is 45 to 57 degrees Fahrenheit. The geographic climate is semiarid with an average frost-free season of about 80 to 130 days. The primary use of this soil is for rangeland, pasture, and hay production, and vegetation mainly consists of Wyoming big sagebrush, mountain big sagebrush, antelope bitterbrush, rabbitbrush, singleleaf pinyon, bottlebrush squirreltail, and Sandberg's bluegrass.

Toll Series

Toll sand (0 to 4 percent slopes) (4 to 15 percent slopes) (clay substratum, 0 to 2 percent slopes) – The Toll series consists of deep, somewhat excessively drained soils that formed in eolian deposits and alluvium from mixed rocks at elevations between 4,000 and 5,500 feet. Taxonomic classes for this series include mixed and mesic Xeric Torripsamments. These soils occur on alluvial fans and terraces with slopes of 0 to 15 percent. Coloration is light brownish gray, dark grayish brown, dark brown, brown, and pale brown down to 60 inches deep. The mean annual precipitations are 8 to 12 inches and mean annual temperature is 45 to 51 degrees Fahrenheit. The geographic climate is semiarid with an average

frost-free season of about 100 to 120 days. The primary use of this soil is for rangeland, wildlife habitat, recreation, and as a source of sand, and vegetation mainly consists of desert peach, big sagebrush, rabbitbrush, horsebrush, cheatgrass, Indian ricegrass, needlegrass and squirreltail.

Turria Series

Turria clay loam (wet) – The Turria series consists of deep, well drained soils that formed in mixed alluvium at elevations between 4,298 and 5,315 feet. Taxonomic classes for this series include fine-loamy, mixed, superactive, and mesic Xeric Haplargids. These soils occur on alluvial fans with slopes of 0 to 2 percent. Coloration is light brownish gray, very dark grayish brown, brown, dark brown, and pale brown down to 62 in deep. The mean annual precipitations are 7 to 10 in and mean annual temperature is 48 to 50 degrees Fahrenheit. The seasonal high water table is about 4 to 6 feet deep and the average frost-free season is about 60 to 115 days. The primary use of this soil is for livestock grazing, urban development, and irrigated cropland, and vegetation mainly consists of spiny hopsage, big sagebrush, bud sagebrush, saltbush, and horsebrush with an understory of cheatgrass and squirreltail. Irrigated areas are cropped to alfalfa hay and small grains.

Updike Series

Updike-Springmeyer association – The Updike series consists of very deep, moderately well drained soils that formed in alluvium over lacustrine deposits derived from mixed rocks at elevations between 4,500 and 5,900 feet. Taxonomic classes for this series include fine, smectitic, and mesic Xerertic Natrargids. These soils occur on lake terraces and stream terraces with slopes of 0 to 2 percent. Coloration is light gray, brown, pale brown, light brownish gray and light yellowish gray down to 63 inches deep. The mean annual precipitations are 8 to 10 inches and mean annual temperature is 68 to 70 degrees Fahrenheit. The apparent seasonal high water table is about 4 to 6 feet deep and the average frost-free season is about 80 to 110 days. The primary use of this soil is for livestock grazing, recreation, urban development, and wildlife habitat, and vegetation mainly consists of black greasewood, basin big sagebrush, basin wildrye, inland saltgrass, shadscale, bud sagebrush, and bottlebrush squirreltail. Some areas are dominated by silver sagebrush and inland saltgrass.

Voltaire Series

Voltaire silty clay loam (wet, strongly saline-alkali) – The Voltaire series consists of very deep, poorly and very poorly drained soils that formed in alluvium from mixed rocks at elevations between 3,904 and 5,200 feet. Taxonomic classes for this series include fine-loamy, mixed, superactive, calcareous, and mesic Fluvaquentic Endoaquolls. These soils occur on alluvial fans, stream terraces, and floodplains with slopes of 0 to 2 percent. Coloration is dark gray, very dark brown, olive gray, to dark olive gray down to 45 in deep. The mean annual precipitations are 7 to 12 in and mean annual temperature is 48 to 50 degrees Fahrenheit. The apparent seasonal high water table is from 35 to 59 in deep and the average frost-free season is about 90 to 120 days. The primary use of this soil is for grazing, pasture, and meadow hay production, and vegetation mainly consists of meadow type grasses and salt tolerant plant.

Washoe Series

Washoe gravelly sandy loam (0 to 2 percent slopes) – The Voltaire series consists of very deep, well drained soils that formed in alluvium derived from mixed igneous rocks at elevations between 4,400 to 5,200 feet. Taxonomic classes for this series include loamy-skeletal, mixed, superactive, and mesic Xeric Haplargids. These soils occur on terraces with slopes of 0 to 15 percent. Coloration is brown, very dark

grayish brown, pale brown, dark brown, light yellowish brown and yellowish brown down to 60 inches deep. The mean annual precipitations are 8 to 12 inches and mean annual temperature is 30 to 32 degrees Fahrenheit. The geographic climate is semiarid with an average frost-free season of about 90 to 110 days. The primary use of this soil is for rangeland and urban development, and vegetation mainly consists of Wyoming big sagebrush, Nevada ephedra, rabbitbrush, Anderson's peachbrush, and bottlebrush squirreltail.

1.6. CARSON CITY

Bishop Series

Bishop loam, saline – The Bishop series consists of deep, poorly drained soils that formed in alluvium from mixed rocks at elevations between 3,500 and 4,700 feet. Taxonomic classes for this series include fine-loamy, mixed, superactive, calcareous, and mesic Cumulic Endoaquolls. These soils occur within floodplains and alluvial fans with slopes of 0 to 2 percent. Coloration is grayish brown, very dark gray, light brownish gray, light gray and gray down to 60 inches deep. The mean annual precipitations are 5 to 15 inches and mean annual temperature is 49 to 56 degrees Fahrenheit. The average frost-free season is about 100 to 160 days. The primary use of this soil is for pasture, and vegetation mainly consists of meadow grasses, sedges, and clovers.

Dalzell Series

Dalzell fine sandy loam (deep water table) – The Dalzell series consists of moderately deep, somewhat poorly drained soils that form in lacustrine materials at elevations between 4,003 to 5,102 feet. Taxonomic classes include fine-loamy, mixed, superactive, and mesic Natrargidic Natridurids. These soils are on lake terraces with slopes of 0 to 5 percent. Coloration ranges from pale brown, light gray, brown, grayish brown, light yellowish brown, light olive brown, light brownish gray, very pale brown, dark brown, yellowish brown, and light olive brown witnin 63 inches of depth. The mean annual precipitations are about 6 to 8 in and mean annual temperature is 50 to 52 degrees Fahrenheit. The frost free season is about 100 to 120 days. The primary use of this soil is for livestock gazing and wildlife habitat, and vegetation primarily consists of black greasewood, rubber rabbitbrush, shadescale, and saltgrass.

Glenbrook Series

Tarloc-Glenbrook association – The Glenbrook series consists of shallow, somewhat excessively drained soils that formed in residuum and colluvium derived from granitic rock at elevations between 4,413 and 6,808 feet. Taxonomic classes for this series include mixed, mesic, and shallow Xeric Torripsamments. These soils occur on rock pediments, hills, and mountains with slopes of 5 to 75 percent. Coloration is grayish brown, very dark grayish brown, light brownish gray, brown, and gray and white with dark brown and black ferromagnesian minerals down to 25 inches deep. The mean annual precipitations are 10 to 16 in and mean annual temperature is 45 to 52 degrees Fahrenheit. The average frost-free season is about 60 to 120 days. The primary use of this soil is for livestock grazing and wildlife habitat, and vegetation mainly consists of Wyoming big sagebrush, antelope bitterbrush, green ephedra, Anderson's peachbrush, Indian ricegrass, and bottlebrush squirreltail.

Godecke Series

Godecke fine sandy loam– The Godecke series consists of very deep, moderately well drained soils at elevations between 4,650 and 4,750 feet. Taxonomic classes for this series include fine-loamy, mixed, superactive, and mesic Durinodic Xeric Natrargids. These soils occur on stream terraces with slopes of 0 to 2 percent. Coloration is pale brown, grayish brown, pale yellow, olive down to 68 inches deep. The mean annual precipitations are 8 to 10 inches and mean annual temperature is 46 to 51 degrees Fahrenheit. The apparent seasonal high water table is from 3.5 to 5 feet deep, which occurs from December to May, and the average frost-free season is about 90 to 110 days. The primary use of this soil is for rangeland, and vegetation mainly consists of rubber rabbitbrush, black greasewood, inland saltgrass with scattered spiny hopsage, fourwing saltbush, basin big sagebrush, and basin wildrye.

Greenbrae Series

Greenbrae fine sandy loam (0 to 2 percent slopes), Greenbrae gravelly sandy loam (4 to 8 percent slopes) – The Greenbrae series consists of very deep, well drained soils that formed in alluvium derived mostly from granite at elevations between 4,511 and 5,610 feet. Taxonomic classes for this series include fine-loamy, mixed, superactive, and mesic Xeric Haplargids. These soils occur on smooth terraces, alluvial fans, and fan remnants with slopes of 0 to 15 percent. Coloration is grayish brown, very dark brown, dark brown, brown, very dark grayish brown, yellowish brown, pale brown, light yellowish brown and dark yellowish brown in the top 30 inches and yellowish brown, grayish brown, to pale brown down to 75 inches deep. The mean annual precipitations are 8 to 10 in and mean annual temperature is 48 to 50 degrees Fahrenheit. The average frost-free season is about 100 to 110 days. The primary use of this soil is for livestock grazing, recreation, and urban development, and vegetation mainly consists of big sagebrush, rabbitbrush, squirreltail and cheatgrass.

Haybourne Series

Haybourne gravelly sandy loam (2 to 4 percent slopes), Haybourne loam (0 to 2 percent slopes), Haybourne sandy loam (0 to 2 percent slopes) (4 to 8 percent slopes) – The Haybourne series consists of very deep, well drained soils that formed in alluvium derived from granitic rocks or from mixed sources at elevations between 4,511 and 6,595 feet. Taxonomic classes for this series include coarse-loamy, mixed, superactive, and mesic Xeric Haplocambids. These soils occur on inset fans, alluvial fans, fan remnants, ballenas, lake terraces, fan skirts, and fan aprons with slopes of 0 to 30 percent. Coloration is pale brown, dark brown, and light brownish gray down to 62 inches deep. The mean annual precipitations are 8 to 12 inches and mean annual temperature is 8 to 46 degrees Fahrenheit. The geographic climate is semiarid with an average frost-free season of about 80 to 120 days. The primary use of this soil is for irrigated cropland, rangeland, recreation, and urban development, and vegetation mainly consists of Wyoming big sagebrush, Douglas rabbitbrush, Nevada ephedra, Anderson's peachbrush, bottlebrush squirreltail, desert needlegrass, and Indian ricegrass.

Indiano Series

Indiano variant gravelly fine sandy loam (4 to 15 percent slopes), Indiano-Nosrac-Old Camp association – The Indiano series consists of very deep, poorly drained and very poorly drained soils that formed in alluvium derived from mixed rocks with influence from granitic rocks at elevations between 4,298 and 6,005 feet. Taxonomic classes for this series include coarse-loamy, mixed, superactive, and mesic Typic Endoaquolls. These soils occur on swales, flood plains, and sloughs on the toes of alluvial fans with slopes of 2 to 50 percent. Coloration is brown, dark brown, light yellowish brown, pale brown and

yellowish brown down to 33 in deep. The mean annual precipitations are 10 to 14 in and mean annual temperature is 45 to 52 degrees Fahrenheit. The geographic climate is semiarid with an average frost-free season of about 80 to 110 days. The primary use of this soil is for rangeland and wildlife habitat, and vegetation mainly consists of Wyoming big sagebrush, antelope bitterbrush, Anderson's peachbrush with bottlebrush squirreltail, cheatgrass and some of the bluegrasses.

Jubilee Series

Jubilee coarse sandy loam (0 to 2 percent slopes), Jubilee sandy loam (2 to 4 percent slopes) – The Indiano series consists of moderately deep, well drained soils that formed in residuum and colluvium derived from altered volcanic rocks at elevations between 4,701 and 5,610 feet. Taxonomic classes for this series include fine-loamy, mixed, superactive, and mesic Aridic Argixerolls. These soils occur on hills, mountains, and rock pediments with slopes of 0 to 4 percent. Coloration is very dark brown, olive, dark gray, dark reddish brown, pale olive, yellowish red, olive gray, olive gray and light olive gray down to 60 in deep. The mean annual precipitations are 8 to 12 in and mean annual temperature is 46 to 52 degrees Fahrenheit. The geographic climate is semiarid with an average frost-free season of about 90 to 110 days. The primary use of this soil is for pasture and meadow hay production, and vegetation mainly consists of sedges, various clovers, Nevada bluegrass, beardless wildrye, meadow barley, streambank wheatgrass, and Juncus spp.

Kimmerling Series

Kimmerling silty clay loam– The Kimmerling series consists of very deep, poorly drained soils that formed in alluvium derived from mixed sources at elevations between 4,495 and 5,610 feet. Taxonomic classes for this series includefine-loamy, mixed, superactive, and mesic Cumulic Endoaquolls. These soils occur on flood plains and swales with slopes of 0 to 2 percent. Coloration is dark gray, very dark gray, gray, and black down to 60 in deep. The mean annual precipitations are 4 to 10 in and mean annual temperature is 46 to 50 degree Fahrenheit. The apparent seasonal high water table is within 20 in deep, which occurs from December to May, and the average frost-free season is about 90 to 120 days. The primary use of this soil is for pasture and improved irrigated meadows, and vegetation mainly consists of sedges, rushes, native clovers, and inland saltgrass.

Mottsville Series

Mottsville loamy coarse sand (2 to 4 percent slopes) – The Mottsville series consists of very deep, excessively drained soils that formed in alluvium derived from granitic rocks at elevations between 4,495 and 5,413 feet. Taxonomic classes for this series are mixed and mesic Torripsammentic Haploxerolls. These soils occur on alluvial fans, fan remnants and fan aprons with slopes of 0 to 15 percent. Coloration is dark grayish brown, very dark brown, grayish brown, very dark grayish brown, and light brownish gray down to 62 in deep. The mean annual precipitations are 10 to 12 in and mean annual temperature is 46 to 52 degrees Fahrenheit. The geographic climate is semiarid with an average frost-free season is about 90 to 110 days. The primary use of this soil is for rangeland and urban development, and vegetation mainly consists of big sagebrush, antelope bitterbrush, Anderson's peachbrush, and needlegrasses.

Nosrac Series

Indiano-Nosrac-Old Camp association – The Nosrac series consists of very deep, well drained soils that formed in colluvium and residuum derived from andesite and schist at elevations between 5,003 to

7,611 feet. Taxonomic classes for this series include loamy-skeletal, mixed, superactive, and mesic Aridic Argixerolls. These soils occur on hills and mountains and typically occur on north-facing backslopes with slopes of 15 to 75 percent. Coloration is grayish brown, very dark grayish brown, brown, and olive down to 60 in deep. The mean annual precipitations are 12 to 16 in and mean annual temperature is 45 to 50 degrees Fahreneheit. The geographic climate is semiarid with an average frost-free season of about 80 to 100 days. The primary use of this soil is for forest land, livestock grazing, and wildlife habitat, and vegetation mainly consists of a forest canopy of singleleaf pinyon and Utah juniper with an understory of Wyoming big sagebrush, prickly currant, Sandberg's bluegrass, cheatgrass, and bottlebrush squirreltail.

Old Camp Series

Indiano-Nosrac-Old Camp association – The Old Camp series consists of shallow, well drained soils that formed in residuum and colluvium derived from volcanic rocks at elevations between 4,395 to 6,988 feet. Taxonomic classes for this series include loamy-skeletal, mixed, superactive, and mesic Lithic Xeric Haplargids. These soils occur on hills, mountains, and plateaus with slopes of 2 to 75 percent. Coloration is very pale brown, brown, pale brown and dark yellowish brown down to 14 in deep. The mean annual precipitations are 8 to 12 in and mean annual temperature is 43 to 48 degrees Fahrenheit. The geographic climate is semiarid with an average frost-free season of about 90 to 100 days. The primary use of this soil is for livestock grazing and wildlife habitat, and vegetation mainly consists of Wyoming big sagebrush in northern latitudes and black sagebrush in southern latitudes with spiny hopsage, littleleaf horsebrush, bottlebrush squirreltail, and Sandberg's bluegrass.

Orizaba Series

Orizaba loam (saline-alkali) – The Orizaba series consists of very deep, somewhat poorly drained soils that formed in alluvium derived from mixed rocks at elevations between 4,593 and 5,577 feet. Taxonomic classes for this series include fine-loamy, mixed, superactive, calcareous, and mesic Aeric Halaquepts. These soils occur on alluvial flats, lake plains, floodplains and beach plains with slopes less than one percent. Coloration is light gray, olive, dark grayish brown, gray, brown, white, and black down to 60 in deep. The mean annual precipitations are 4 to 10 in and mean annual temperature is 46 to 50 degrees Fahrenheit. The apparent seasonal high water table is from 30 to 59 in deep and the average frost-free season is about 100 to 120 days. The primary use of this soil is for rangeland, and vegetation mainly consists of big rabbitbrush, black greasewood, big sagebrush, saltgrass, giant wildrye and alkali sacaton.

Prey Series

Prey gravelly loamy sand (0 to 4 percent slopes) – The Prey series consists of moderately deep, well drained soils that formed in alluvium mainly from granitic rocks at elevations between 4,600 and 5,100 feet. Taxonomic classes for this series include Coarse-loamy, mixed, superactive, and mesic Haploxeralfic Argidurids. These soils occur on alluvial fans and terraces with slopes of 0 to 15 percent. Coloration is light gray, very pale brown, yellowish brown, dark grayish brown, grayish brown, brown, dark yellowish brown, and very dark grayish brown down to 60 inches deep. The mean annual precipitations are 8 to 16 inches and mean annual temperature is 49 to 51 degrees Fahrenheit. The geographic climate is semiarid with an average frost-free season of about 95 to 120 days. The primary use of this soil is for rangeland, and vegetation mainly consists of big sagebrush, antelope bitterbrush, rabbitbrush, squirreltail, needlegrass and Mormon tea.

Rock Series

Xerta-Rock outcrop complex, 4 to 30 percent slopes – No Description available.

Surprise Series

Surprise coarse sandy loam (2 to 4 percent slopes) (4 to 8 percent slopes), Surprise gravelly sandy loam (0 to 2 percent slopes) – The Surprise series consists of very deep, well drained soils that formed in alluvium derived from tuff and tuff-breccia at elevations between 4,000 and 5,600 feet. Taxonomic classes for this series include ashy, glassy, and mesic Vitritorrandic Haploxerolls. These soils occur on fan skirts, inset fans, and fan remnants with slopes of 0 to 15 percent. Coloration is grayish brown, light brownish gray, very dark grayish brown, and dark grayish brown down to 67 in deep. The mean annual precipitations are 10 to 18 in and mean annual temperature is 44 to 52 degrees Fahrenheit. The average frost-free season is about 90 to 120 days. The primary use of this soil is for irrigated cropland, livestock grazing, and wildlife habitat, and vegetation mainly consists of big sagebrush, antelope bitterbrush, and bluebunch wheatgrass.

Tarloc Series

Tarloc-Glenbrook association – The Tarloc series consists of moderately deep, well drained soils that formed in residuum and colluvium derived from granitic rock at elevations between 5,000 and 6,000 feet. Taxonomic classes for this series include coarse-loamy, mixed, superactive, and mesic Xeric Haplargids. These soils occur on hills with slopes of 4 to 50 percent. Coloration is brown, dark brown, grayish brown, very dark grayish brown, and light brownish gray down to 25 inches deep. The mean annual precipitations are 10 to 14 inches and mean annual temperature is 48 to 52 degrees Fahrenheit. The average frost-free season is about 100 to 120 days. The primary use of this soil is for rangeland, wildlife habitat, and urban development, and vegetation mainly consists of Wyoming big sagebrush, antelope bitterbrush, Sandberg's bluegrass, desert needlegrass, spiny hopsage, and Nevada ephedra.

Vamp Series

Vamp fine sandy loam (drained) (slightly saline-alkali) – The Vamp series consists of moderately deep, somewhat poorly drained soils that formed in alluvium derived from mixed rocks at elevations between 4,413 and 4,610 feet. Taxonomic classes for this series include coarse-loamy, mixed, superactive, and mesic Aquicambidic Haplodurids. These soils occur on flood plains and terraces with slopes of 0 to 2 percent. Coloration is light grayish brown, brown, yellowish brown, light olive gray, grayish brown, very dark grayish brown, dark brown, pale brown, light brownish gray, and dark grayish brown down to 60 in deep. The mean annual precipitations are 7 to 10 in and mean annual temperature is 48 to 52 degrees Fahrenheit. The geographic climate is semiarid with an average frost-free season of about 100 to 110 days. The primary use of this soil is for pasture, wildlife and urban development, and vegetation mainly consists of saltgrass, rabbitbrush, black greasewood, pepperweed and wiregrass.

Voltaire Series

Voltaire silty clay loam (saline) – The Voltaire series consists of very deep, poorly and very poorly drained soils that formed in alluvium from mixed rocks at elevations between 3,904 and 5,200 feet. Taxonomic classes for this series include fine-loamy, mixed, superactive, calcareous, and mesic Fluvaquentic Endoaquolls. These soils occur on alluvial fans, stream terraces, and floodplains with slopes of 0 to 2 percent. Coloration is dark gray, very dark brown, olive gray, gray, reddish brown, very dark

gray, prominent brown, dark greenish gray and dark olive gray down to 45 in deep. The mean annual precipitations are 7 to 12 in and mean annual temperature is 48 to 50 degrees Fahrenheit. The apparent seasonal high water table is from 35 to 59 inches deep and the average frost-free season is about 90 to 120 days. The primary use of this soil is for grazing, pasture, and meadow hay production, and vegetation mainly consists of meadow type grasses and salt tolerant plant.

Xerta Series

Xerta-Rock outcrop complex (4 to 30 percent slopes) – The Xerta series consists of moderately deep, well drained soils that formed in residuum derived from basalt that formed in alluvium from mixed rocks at elevations between 4,610 and 6,808 feet. Taxonomic classes for this series include fine, smectitic, and mesic Argiduridic Durixerolls. These soils occur on hills and basaltic plateaus with slopes of 4 to 30 percent. Coloration is grayish brown, very dark grayish brown, brown, dark brown, dark yellowish brown, dark grayish brown, and white down to 24 inches deep. The mean annual precipitations are 10 to 14 in and mean annual temperature is 45 to 52 degrees Fahrenheit. The average frost-free season is about 100 to 120 days. The primary use of this soil is for rangeland and wildlife habitat, and vegetation mainly consists of low sagebrush, big sagebrush, cheatgrass, bottlebrush squirreltail, green ephedra, littleleaf horsebrush and scattered pinyon and juniper trees.

1.7. WASHOE COUNTY

Aladshi Series

Aladshi sandy loam (2 to 4 percent slopes) – The Aladshi series consists of deep, well drained soils that formed in alluvium derived from mixed rock sources at elevations between 4,400 and 5,200 feet. Taxonomic classes for this series include fine-loamy, mixed, superactive and mesic Duric Endoaquolls Haplargids. These soils occur on distal parts of fan remnants with slopes of 2 to 8 percent. Coloration is brown, light brownish gray, dark brownish gray, pinkish gray and very dark brownish gray down to 60 inches deep. The mean annual precipitation is 7 to 9 inches and the mean annual temperature is 47 to 51 degrees Fahrenheit. The geographic climate is semiarid and the average frost-free season is about 100 to 120 days. The primary use of this soil is for livestock grazing, wildlife, irrigated cropland and urban development, and vegetation mainly consists of Wyoming big sagebrush, spiny hopsage, bottlebrush squirrel tail, Indian ricegrass, Douglas rabbitbrush and cheatgrass.

Barnard Series

Barnard-Trosi Association – The Barnard series consists of moderately deep to a duripan, well drained soils that formed in mixed lacustrine and alluvial sediment sources at elevations between 2,300 and 6,200 feet. Taxonomic classes for this series include fine, smectitic and mesic Argiduridic Durixerolls. These soils occur on terraces and fan and terrace impediments with slopes of 0 to 45 percent. Coloration is white, very pale brown, pale brown, brown, dark brown, grayish brown and very dark grayish brown down to 60 inches deep. The mean annual precipitation is 9 to 13 inches and the mean annual temperature is 45 to 52 degrees Fahrenheit. The climate is characterized by cool wet winters and hot dry summers, and the average frost-free season is about 80 to 140 days. The primary use of this soil is for irrigated cropland, range, hay and pasture, and vegetation mainly consists of bluebunch wheatgrass, Sandberg bluegrass and Thurber needlegrass.

Bieber Series

Bieber stony sandy loam (0 to 4 percent slopes) – The Bieber series consists of very shallow and shallow to a duripan, well drained or moderately well drained soils that formed in alluvium from volcanic rock sources at elevations between 3,500 and 6,100 feet. Taxonomic classes for this series include clayey, smectitic, mesic and shallow Argiduridic Durixerolls. These soils occur on stream terraces and fan remnants with slopes of 0 to 15 percent. Coloration is light brown, brown, dark brown, grayish brown, dark grayish brown and very dark grayish brown down to 60 inches deep. The mean annual precipitation is 9 to 16 inches and the mean annual temperature is 45 to 52 degrees Fahrenheit. The geographic climate is semiarid, and the average frost-free season is about 50 to 120 days. The primary use of this soil is for range and pasture with small areas used in dryland grain and irrigated pasture, and vegetation mainly consists of low sagebrush and perennial grasses.

Chalco Series

Chalco stony loam (4 to 8 percent slopes) – The Chalco series consists of shallow, well drained soils that formed in pedisediment or colluvium over residuum from volcanic rock sources at elevations between 4,400 and 6,670 feet. Taxonomic classes for this series include clayey, smectitic, mesic and shallow Xeric Haplargids. These soils occur on rock pediments, plateaus and hills with slopes of 0 to 50 percent. Coloration is light brownish gray, very dark brownish gray, yellowish brown and dark yellowish brown down to 15 inches deep. The mean annual precipitation is 8 to 14 inches, mean annual temperature is 47 to 49 degrees Fahrenheit and the average frost-free season is about 60 to 100 days. The primary use of this soil is for livestock grazing, wildlife habitat and some urban development, and vegetation mainly consists of low sagebrush, rabbitbrush, Nevada ephedra, bottlebrush squirrel tail and some antelope bitterbrush.

Cradelbaugh Series

Cradlebaugh loam – The Cradlebaugh series consists of deep, poorly drained soils that formed in alluvium from mixed rock sources at elevations between 4,500 and 4,800 feet. Taxonomic classes for this series include fine-loamy, mixed, superactive, calcareous, and mesic Duric Endoaquolls. These soils occur on stream terraces with slopes of 0 to 2 percent. Coloration is very dark brown, gray, dark grayish brown, dark gray, light gray, grayish brown, very dark grayish brown, olive gray, light olive gray, and olive down to 65 inches deep. The mean annual precipitation is 10 to 12 inches; mean annual temperature is 48 to 49 degrees Fahrenheit. The water table occurs from 20 to 20 inches deep, which occurs in late winter and spring, and the average frost-free season is about 90 to 105 days. The primary use of this soil is for meadow hay and pasture, and vegetation mainly consists of clover, fecues, foxtail, saltgrass and bassia. Vegetation in poorly drained areas consists of sedges, redtop, bluegrass, saltgrass, and native clover. Vegetation in strongly alkali areas consists of greasewood with an understory of saltgrass and foxtail.

Dithod Series

Dithod sandy loam – The Dithod series consists of very deep, moderately well drained soils that formed in alluvium from mixed sources at elevations between 4,980 and 4,399 feet. Taxonomic classes for this series include corse-loamy, mixed, superactive, calcareous, and mesic Oxyaquic Haploxerolls. These soils occur in flood plains and stream terraces with slopes of 0 to 2 percent. Coloration is dark grayish brown, very dark grayish brown and light brownish gray down to 62 inches deep. The mean annual precipitation is 4 to 8 inches and the mean annual temperature is 50 to 55 degrees Fahrenheit. The water table occurs

from 35 to 59 inches deep, which occurs from December through September, and the average frost-free season is about 110 to 150 days. The primary use of this soil is for irrigated cropland with most areas being cleared, leveled and irrigated, and principal crops grown consist of alfalfa, small grains, corn and legume-grass pasture. Native vegetation mainly consists of big basin sagebrush, some perennial grasses or black greasewood and inland salt grass. These soils are susceptible to rare flooding for brief periods or occasional flooding for long periods between December and June.

Dressler Series

Dressler loamy sand (2 to 4 percent slopes) – The Dressler series consists of very deep, moderately drained soils that formed in alluvium from granitic rock sources at elevations between 4,593 and 5,315 feet. Taxonomic classes for this series include coarse-loamy, mixed, superactive and Torrifluventic Haploxerolls. These soils occur on low stream terraces with slopes of 0 to 4 percent. Coloration is dark grayish brown, very dark grayish brown, gray, yellowish brown, dark yellowish brown, pale brown, brown and strong brown down to 66 inches deep. The mean annual precipitation is 79 to 98 inches and the mean annual temperature is 46 to 52 degrees Fahrenheit. The geographic climate is semiarid, and the average frost-free season is about 90 to 110 days. The primary use of this soil is for meadow hay, small grain production and livestock pasture, and vegetation mainly consists of meadow hay and other grasses.

Fleischmann Series

Fleischmann gravelly clay loam (2 to 4 percent slopes) (4 to 8 percent slopes) – The Fleischmann series consists of moderately deep, well drained soils that formed in mixed alluvium at elevations between 4,300 and 5,200 feet. Taxonomic classes for this series include fine, smectitic and mesic Argidic Durixerolls. These soils occur on terraces with slopes of 2 to15 percent. Coloration is grayish brown, dark brown, brown, yellowish brown, dark yellowish brown, pale brown, very pale brown and light yellowish brown down to 60 inches deep. The mean annual precipitation is 8 to 12 inches, the mean annual temperature is 47 to 50 degrees Fahrenheit and the average frost-free season is about 90 to 110 days. The primary use of this soil is for urban development and pasture.

Flex Series

Flex stony sandy loam (8 to 15 percent slopes), Flex very gravelly sandy loam (15 to 30 percent slopes, 30 to 50 percent slopes) – The Flex series consists of very shallow and shallow, well drained soils that formed in residuum weathered from altered andesite and metavolcanic sources at elevations between 4,970 and 7,100 feet. Taxonomic classes for this series include loamy-skeletal, mixed, superactive, mesic and shallow Xeric Haplargids. These soils occur on hills and mountains with slopes of 8 to 50 percent. Coloration is light grayish brown, grayish brown, dark grayish brown, brown and dark brown down to 10 inches deep. The mean annual precipitation is 8 to 12 inches and the mean annual temperature is 45 to 48 degrees Fahrenheit. The geographic climate is semiarid, and the average frost-free season is about 80 to 110 days. The primary use of this soil is for wildlife habitat, urban development and watershed and vegetation mainly consists of Wyoming big sagebrush, green ephedra, purple sage, desert needlegrass, antelope bitterbrush and cheatgrass.

Glenbrook Series

Roloc-Graufels-Glenbrook Association – The Glenbrook series consists of shallow, somewhat excessively drained soils that formed in residuum and colluvium derived from granitic rock at elevations between

530 and 817 feet. Taxonomic classes for this series include mixed, mesic, and shallow Xeric Torripsamments. These soils occur on rock pediments, hills, and mountains with slopes of 5 to 75 percent. Coloration is grayish brown, very dark grayish brown, light brownish gray, brown, and gray and white with dark brown and black ferromagnesian minerals down to 25 in deep. The mean annual precipitations are 10 to 16 in and mean annual temperature is 45 to 52 degrees Fahrenheit. The average frost-free season is about 60 to 120 days. The primary use of this soil is for livestock grazing and wildlife habitat, and vegetation mainly consists of Wyoming big sagebrush, antelope bitterbrush, green ephedra, Anderson's peachbrush, Indian ricegrass, and bottlebrush squirreltail.

Godecke Series

Godecke variant loamy sand – The Godecke series consists of very deep, moderately well drained soils at elevations between 4,650 and 4,750 feet. Taxonomic classes for this series include fine-loamy, mixed, superactive, and mesic Durinodic Xeric Natrargids. These soils occur on stream terraces with slopes of 0 to 2 percent. Coloration is pale brown to grayish brown in the top 36 inches and pale yellow to olive down to 68 inches deep. The mean annual precipitation is 8 to 10 inches, the mean annual temperature is 46 to 51 degrees Fahrenheit. The apparent seasonal high water table is from 3.5 to 5 feet deep, which occurs from December to May, and the average frost-free season is about 90 to 110 days. The primary use of this soil is for rangeland, and vegetation mainly consists of rubber rabbitbrush, black greasewood, inland saltgrass with scattered spiny hopsage, fourwing saltbush, basin big sagebrush, and basin wildrye.

Graufels Series

Graufels bouldery sand (8 to 15 percent slopes), Roloc-Graufels-Glenbrook Association – The Graufels series consists of moderately deep, somewhat excessively drained soils that formed in residuum and colluvium from granitic rock sources at elevations between 4,500 and 6,500 feet. Taxonomic classes for this series include mixed and mesic Torripsammentic Halpoxerolls. These soils occur on hills and mountainsides with slopes of 4 to 60 percent. Coloration is grayish brown, dark grayish brown, very dark grayish brown, dark brown, light yellowish brown and dark yellowish brown down to 22 inches deep. The mean annual precipitation is 10 to 12 inches, mean annual temperature is 46 to 53 degrees Fahrenheit. The geographic climate is semiarid, and the average frost-free season is about 80 to 120 days. The primary use of this soil is for rangeland and wildlife habitat, and vegetation mainly consists of Wyoming big sagebrush, antelope bitterbrush, Anderson’s peachbrush, Indian ricegrass, bottlebrush squirreltail and scattered pine trees.

Holbrook Series

Holbrook cobbly loam sand (2 to 8 percent slopes), Holbrook gravelly loam sand (2 to 8 percent slopes) – The Holbrook series consists of very deep, well drained soils that formed in alluvium from mixed rock sources at elevations between 4,396 and 7,201 feet. Taxonomic classes for this series include loamy-skeletal, mixed, superactive and mesic Torriorthentic Haploxerolls. These soils occur on alluvial fans, fan aprons and fan inset fans in fan piedmont landscapes with slopes of 0 to 15 percent. Coloration is gray to dark grayish brown down to 15 inches and light brownish gray and dark grayish brown down to 61 inches deep. The mean annual precipitation is 8 to 14 in and the mean annual temperature is 46 to 52 degrees Fahrenheit and the average frost-free season is about 80 to 110 days. The primary use of this soil is for livestock grazing, urban development, irrigated cropland and wildlife habitat and vegetation mainly consists of Wyoming big sagebrush, antelope bitterbrush, Thruber’s needlegrass, Sandberg’s bluegrass, bottlebrush squirrel tail and basin wildrye. These soils are susceptible to rare flooding for very brief periods year-round.

Idlewild Series

Idlewildclay loam (drained), Idlewild gravelly sandy loam, Idlewild sandy loam (drained) – The Idlewild series consists of very deep, somewhat poorly drained soils that formed in mixed alluvium sources at elevations between 4,300 and 4,600 feet. Taxonomic classes for this series include fine, smectitic and mesic Aquic Argixerolls. These soils occur on alluvial fans and low terraces with slopes of 0 to 15 percent. Coloration is very dark grayish brown, dark grayish brown and many large prominent reddish brown mottles down to 8 inches deep, and olive brown, dark yellowish brown, yellowish brown, brown, few faint line brown mottles and many large prominent brown mottles down to 68 inches deep. The mean annual precipitation is 8 inches, mean annual temperature is 50 degrees Fahrenheit and the average frost-free season is about 100 days. The primary use of this soil is for urban development and pasture, and vegetation mainly consists of meadow grasses.

Indiano Series

Indian-Nosrac-Old Camp Association – The Indiano series consists of moderately deep, well drained soils that formed in residuum and colluvium from altered volcanic rock sources at elevations between 3,707 and 6,004 feet. Taxonomic classes for this series include fine-loamy, mixed, superactive and mesic Ardric Argixerolls. These soils occur on hills, mountains and rock pediments with slopes of 2 to 50 percent. Coloration is pale brown, brown, dark brown, light yellowish brown and yellowish brown down to 37 inches deep. The mean annual precipitation is 10 to 14 inches, and the mean annual temperature is 46 to 52 degrees Fahrenheit. The geographic climate is semiarid, and the average frost-free season is about 80 to 110 days. The primary use of this soil is for rangeland and wildlife habitat, and vegetation mainly consists of Wyoming big sagebrush, antelope bitterbrush, cheatgrass, Anderson's peachbrush, bottlebrush squirreltail and some of the blue grasses.

Kayo Series

Kayo stony sandy loam, 4 to 8 percent slopes – The Kayo series consists of very deep, well drained soils that formed in mixed alluvium at elevations between 4,400 and 5,800 feet. Taxonomic classes for this series include loamy-skeletal, mixed, superactive and mesic Xeric Haplargids. These soils occur on fan piedmonts with slopes of 2 to 30 percent. Coloration is brown, dark grayish brown, light brownish gray, very dark grayish brown and grayish brown down to 60 inches deep. The mean annual precipitation is 8 to 10 inches and the mean annual temperature is 48 to 51 degrees Fahrenheit. The geographic climate is semi-arid, and the average frost-free season is about 100 to 110 days. The primary use of this soil is for rangeland, wildlife habitat and urban development, and vegetation mainly consists of spiny hopsage, low rabbitbrush, big sagebrush, desert peach, squirrel tail and Indian ricegrass.

Koontz Series

Koontz gravelly loam, 8 to 15 percent slopes – The Koontz series consists of very shallow or shallow, well drained soils that formed in residuum and colluvium from metavolcanic and metamorphic rock sources at elevations between 4,800 and 7,612 ft. Taxonomic classes for this series include loamy-skeletal, mixed, superactive, mesic and shallow Aridic Argixerolls. These soils occur typically on shoulder or backslope positions of hills and mountains with slopes of 8 to 75 percent. Coloration is grayish brown, very dark grayish brown, brown and dark brown down to 42 in deep. The mean annual precipitation is 10 to 14 inches, which comes mostly as snow and mean annual temperature is 45 to 52 degrees Fahrenheit. The geographic climate is semiarid, and the average frost-free season is about 80 to 120 days. The primary use of this soil is for livestock grazing and wildlife habitat, and vegetation mainly

consists of singleaf pinyon and Utah juniper with an understory of big sagebrush, antelope bitterbrush and bottlebrush squirreltail.

Leviathan Series

Leviathan stony sandy loam (0 to 2 percent slopes, 2 to 8 percent slopes) – The Leviathan series consists of very deep, well drained soils that formed in alluvium from granitic rocks at elevations between 4,790 and 7,021 feet. Taxonomic classes for this series include loamy-skeletal, mixed, superactive and mesic Aridic Argixerolls. These soils occur on stream terraces and fan remnants with slopes of 0 to 50 percent. Coloration is grayish brown, very dark grayish brown, brown and dark brown down to 14 inches deep and brown down to 65 inches deep. The mean annual precipitation is 10 to 14 inches, and the mean annual temperature is 46 to 54 degrees Fahrenheit. The geographic climate is semiard, and the average frost-free season is about 75 to 110 days. The primary use of this soil is for livestock grazing, wildlife habitat and urban development and the vegetation mainly consists of Wyoming big sagebrush, antelope bitterbrush, bottlebrush squirreltail, desert needlegrass and cheatgrass.

Mottsville Series

Mottsville gravelly coarse sand (4 to 8 percent slopes), Mottsville sand (0 to 4 percent slopes, 8 to 15 percent slopes) – The Mottsville series consists of very deep, excessively drained soils that formed in alluvium derived from granitic rocks at elevations between 4,495 and 5,413 ft. Taxonomic classes for this series are mixed and mesic Torripsammentic Haploxerolls. These soils occur on alluvial fans, fan remnants and fan aprons with slopes of 0 to 15 percent. Coloration is dark grayish brown, very dark brown, to light brownish gray down to 62 inches deep. The mean annual precipitation is 10 to 12in and the mean annual temperature is 46 to 52 degrees Fahrenheit. The geographic climate is semiarid with an average frost-free season is about 90 to 110 days. The primary use of this soil is for rangeland and urban development, and vegetation mainly consists of big sagebrush, antelope bitterbrush, Anderson's peachbrush, and needlegrasses.

Nosrac Series

Indian-Nosrac-Old Camp Association – The Nosrac series consists of very deep, well drained soils that formed in residuum and colluvium from andesite and schist sources at elevations between 5,003 and 7,612 feet. Taxonomic classes for this series include loamy-skeletal, mixed, superactive and mesic Ardric Argixerolls. These soils occur on hills and mountains typically on the north-facing backslope positions with slopes of 15 to 75 percent. Coloration is brown, grayish brown, very dark grayish brown and olive down to 60 inches deep. The mean annual precipitation is12 to 16 inches and the mean annual temperature is 46 to 52 degrees Fahrenheit. The geographic climate is semiarid, and the average frost-free season is about 80 to 100 days. The primary use of this soil is for forest land, livestock grazing and wildlife habitat, and vegetation is mainly a forest canopy of singleleaf pinyon and Utah juniper with an understory of Wyoming big sagebrush, prickly currant, Sandberg's bluegrass, cheatgrass and bottlebrush squirreltail.

Notus Series

Notus stony loam fine sand, Settlemeyer-Notus Complex – The Notus series consists of very deep, moderately well or somewhat poorly drained soils that formed in alluvium from granite or other acidic igneous rock sources at elevations between 2,000 and 4,500 feet. Taxonomic classes for this series include sandy-skeletal, mixed and mesic Aquic Xerofluvents. These soils occur on channeled flood plains

and low terraces with slopes of 0 to 4 percent. Coloration is grayish brown, very dark grayish brown, light brownish gray, olive brown and light gray down to 60 inches deep. The mean annual precipitation is 7 to 13 inches including 1.5 to 3 feet of snow and the mean annual soil temperature is 47 to 54 degrees Fahrenheit and the average frost-free season is about 110 to 170 days. The primary use of this soil is for irrigated cropland and pasture, and the principle crops include corn, small grains and hay. Native vegetation consists mainly of big sagebrush, rabbitbrush, bunchgrass and cheatgrass.

Old Camp Series

Indian-Nosrac-Old Camp Association, Old Camp stony sandy loam (8 to 15 percent slopes, 15 to 30 percent slopes) – The Old Camp series consists of shallow, well drained soils that formed in residuum and colluvium derived from volcanic rock sources at elevations between 4,396 and 7,201 ft. Taxonomic classes for this series include loamy-skeletal, mixed, superactive and mesic Lithic Xeric Haplargids. These soils occur on hills, mountains and plateaus on backslope positions with slopes of 2 to 75 percent. Coloration is very pale brown, pale brown, brown, dark brown, dark yellowish brown, yellow, brownish yellow, yellowish brown lithochromic mottles and very pale brown masses on bottoms of rock fragments down to 14 inches deep. The mean annual precipitation is 8 to 12 inches and the mean annual temperature is 43 to 48 degrees Fahrenheit. The geographic climate is semiarid, and the average frost-free season is about 90 to 110 days. The primary use of this soil is for livestock grazing and wildlife habitat and vegetation mainly consists of Wyoming big sagebrush in the northern latitudes and black sagebrush in the southern latitudes with spiny hopsage, little leaf horsebrush, bottlebrush squirreltail and Sandberg's bluegrass.

Oest Series

Oest bouldery sandy loam (2 to 8 percent slopes) – The Oest series consists of very deep, well drained soils that formed in alluvium derived from mixed igenous rock sources at elevations between 4,511 and 5,709 feet. Taxonomic classes for this series include loamy-skeletal, mixed, superactive and mesic Aridic Argixerolls. These soils occur on fan remnants or stream terraces with slopes of 0 to 50 percent. Coloration is brownish gray, very dark grayish brown, light brown, brown and pale brown down to 60 in deep. The mean annual precipitation is 8 to 14 in and the mean annual temperature is 45 to 52 degrees Fahrenheit. The geographic climate is semiarid, and the average frost-free season is about 80 to 130 days. The primary use of this soil is for recreation, livestock grazing and urban development and vegetation mainly consists of Wyoming big sagebrush, antelope bitterbrush, bottlebrush squirreltail and cheatgrass.

Orr Series

Orr sandy loam (0 to 2 percent slopes) – The Orr series consists of very deep, well drained soils that formed alluvium derived from mixed igneous rock sources at elevations between 4,400 and 7001 feet. Taxonomic classes for this series include fine-loamy, mixed, superactive and mesic Aridic Argixerolls. These soils occur on fan remnants, stream terraces, inset fans and hills with slopes of 0 to 15 percent. Coloration is brown, very dark grayish brown, dark brown, pale brown, light yellowish brown, dark yellowish brown, yellowish brown and very pale brown down to 62 inches deep. The mean annual precipitation is 8 to 12 inches and the mean annual temperature is 48 to 52 degrees Fahrenheit. The geographic climate is semiarid, and the average frost-free season is about 90 to 110 days. The primary use of this soil is for rangeland, irrigated cropland and pasture, and vegetation mainly consists of Wyoming big sagebrush, bottlebrush squirreltail, cheatgrass and Sandberg's bluegrass.

Reywat Series

Reywat extremely stony loam (15 to 30 percent slopes), Reywat-Rock outcrop complex (15 to 50 percent slopes) – The Reywat series consists of shallow, well drained soils that formed residuum and colluvium derived from basalt and andesite sources at elevations between 1001 and 8,976 ft. Taxonomic classes for this series include loamy-skeletal, mixed, superactive and mesic Lithic Argixerolls. These soils occur on hills, mountains and plateaus on mostly south aspects, with some facing north, with slopes of 0 to 90 percent. Coloration is grayish brown, very dark grayish brown, dark brown, grayish brown, brown and dark grayish brown down to 19 in deep. The mean annual precipitation is 9 to 14 inches, including 18 to 59in of snowfall, and the mean annual temperature is 45 to 52 degrees Fahrenheit. The geographic climate is semiarid, and the average frost-free season is about 80 to 160 days. The primary use of this soil is for livestock grazing and wildlife habitat and vegetation mainly consists of big sagebrush, bottlebrush squirreltail, bluebunch wheatgrass, cheatgrass, wild mustard, yarrow, wild buckwheat, phlox, Sandberg's bluegrass and other forbs.

Rock Series

Reywat-Rock outcrop complex (15 to 50 percent slopes) – No description available.

Roloc Series

Roloc-Graufels-Glenbrook Association – The Roloc series consists of shallow, well drained soils that formed in residuum derived from granitic rock sources at elevations between 5,499 and 7,750 feet. Taxonomic classes for this series include loamy-skeletal, mixed, superactive, mesic and shallow Aridic Argixerolls. These soils occur on the back slopes of mountains and ridges with slopes of 15 to 75 percent. From 0 to 3 cm is a pine needle mat; coloration from 3cm down is dark grayish brown, grayish brown, very dark grayish brown, very dark brown, brown, dark brown and pale brown down to 19 inches deep. The mean annual precipitation is 12 to 14 inches, the mean annual temperature is 45 to 48 degrees Fahrenheit and the average frost-free season is about 80 to 100 days. The primary use of this soil is for wildlife habitat and rangeland and vegetation mainly consists of Wyoming big sagebrush, currant, antelope bitterbrush, Therbers needlegrass and pinyon-juniper.

Rose Creek Series

Rose Creek fine sandy loam (drained), Rose Creek gravelly fine sandy loam (drained) – The Rose Creek series consists of very deep, poorly drained soils that formed in stratified alluvium derived from mixed rocks at elevations between 4,003 and 6,804 ft. Taxonomic classes for this series are coarse-loamy, mixed, superactive, calcerous, mesic Fluvaquentic Endoaquolls. These soils occur on flood plains, natural levees and stream terraces with slopes of 0.5 to 2 percent. Coloration is dark grayish brown, grayish brown, light brownish gray and strong brown down to 60 in deep. The mean annual precipitation is 6 to 10 inches and the mean annual temperature is 45 to 50 degrees Fahrenheit. The water table occurs from 20 to 35 in deep during spring runoff period but may drop to 59 to 98 inches during early fall, and the average frost-free season is about 100 to 120 days. The primary use of this soil is for rangeland, pasture, wildlife habitat and irrigated crops, and vegetation mainly consists of creeping wildrye, willows, inland saltgrass and Baltic rush. Some areas are cleared for meadow hay or truck crops. These soils are subject to flooding 1 out of 3 years and often receive deposition of new soil materials in some areas that have been partially drained by entrenchment from stream channels.

Sagouspe Series

Sagouspe variant loamy very fine sand – The Sagouspe series consists of very deep, moderately well drained soils that formed in alluvium derived from mixed rocks at elevations between 3,799 and 4,800 feet. Taxonomic classes for this series are sandy, mixed and mesic Oxyaquic Torrifluvents. These soils occur on flood plains and stream terraces with slopes of 0 to 2 percent. Coloration is dark grayish brown, light gray, light brownish gray, brown, yellowish brown, very dark grayish brown, reddish brown, strong brown and very dark gray down to 60 in deep. The mean annual precipitation is 4 to 8in and the mean annual soil temperature is 52 to 55 degrees Fahrenheit. The water table occurs from 20 to 35 inches deep during February through August, and the average frost-free season is about 110 to 160 days. The primary use of this soil is for urban development, livestock grazing, wildlife habitat and irrigated cropland. Vegetation mainly consists of black greasewood, inland saltgrass and rubber rabbitbrush with principal crops of alfalfa, corn, small grains and pasture. These soils are susceptible to rare year-round flooding.

Settlemeyer Series

Settlemeyer fine sandy loam (0 to 2 percent slopes), Settlemeyer gravelly loam (2 to 4 pecrecent), Settlemeyer-Notus Complex – The Settlemeyer series consists of very deep, poorly drained soils that formed in alluvium from mixed rocks at elevations between 4,511 and 6,316 feet. Taxonomic classes for this series include fine-loamy, mixed, superactive, and mesic Fluvaquentic Endoaquolls. These soils occur on flood plains and inset fans with slopes of 0 to 4 percent. Coloration is very dark gray, dark gray, olive gray, light brownish gray, dark grayish brown and dark brown down to 60 inches deep. The mean annual precipitations are 4 to 12 in and mean annual temperature is 39 to 46 degrees Fahrenheit. The geographic climate is semiarid with an average frost-free season of about 100 to 130 days. The primary use of this soil is for meadow hay, livestock grazing, and wildlife habitat, and vegetation mainly consists of creeping wildrye, basin wildrye, and sedges. Saltgrass and alkali sacaton dominate in salt and sodium affected areas.

Spasprey Series

Spasprey stony sandy loam (4 to 8 percent slopes) – The Spasprey series consists of moderately deep over duripan, well drained soils that formed in alluvium derived from mixed rocks sources at elevations between 4,413 and 7,218 feet. Taxonomic classes for this series include fine-loamy, mixed, superactive, and mesic Hapolxeralfic Argidurids. These soils occur on fan piedmont remnants, alluvial fans and lake terraces with slopes of 0 to 8 percent. Coloration is grayish brown, very dark grayish brown, brown, dark yellowish brown, light brownish gray and pale brown down to 60 in deep. The mean annual precipitations are 8 to 10 in and mean annual temperature is 46 to 50 degrees Fahrenheit. The geographic climate is semiarid with an average frost-free season of about 100 to 110 days. The primary use of this soil is for livestock grazing, and wildlife habitat, and vegetation mainly consists of Wyoming big sagebrush, Indian ricegreass, bottlebrush squirrel tail and scattered areas of antelope bitterbrush and desert peach.

Springmeyer Series

Springmeyer sandy clay loam (0 to 2 percent slopes), Springmeyer stony loam (0 to 2 percent slopes, 2 to 4 percent slopes) – The Springmeyer series consists of very deep, well drained soils that formed in alluvium derived from mixed igneous rocks at elevations between 3,937 and 7,500 feet. Taxonomic classes for this series include fine-loamy, mixed, superactive, and mesic Aridic Argixerolls. These soils

occur on fan remnants and inset fans with slopes of 0 to 50 percent. Coloration is brown, dark brown, dark grayish brown, and pale brown down to 62 inches deep. The mean annual precipitations are 8 to 14 inches and mean annual temperature is 45 to 57 degrees Fahrenheit. The geographic climate is semiarid with an average frost-free season of about 80 to 130 days. The primary use of this soil is for rangeland, pasture, and hay production, and vegetation mainly consists of Wyoming big sagebrush, mountain big sagebrush, antelope bitterbrush, rabbitbrush, singleleaf pinyon, bottlebrush squirreltail, and Sandberg's bluegrass.

Surprise Series

Surprise coarse sandy loam (4 to 8 percent slopes), Surprise loamy sand (2 to 4 percent slopes) – The Surprise series consists of very deep, well drained soils that formed in alluvium derived from tuff and tuff-breccia at elevations between 3,999 and 5,600 feet. Taxonomic classes for this series include ashy, glassy, and mesic Vitritorrandic Haploxerolls. These soils occur on fan skirts, inset fans, and fan remnants with slopes of 0 to 15 percent. Coloration is grayish brown, light brownish gray, to dark grayish brown down to 170 cm deep. The mean annual precipitation is 10 to 18 in and the mean annual temperature is 45 to 52 degrees Fahrenheit. The average frost-free season is about 90 to 120 days. The primary use of this soil is for irrigated cropland, livestock grazing, and wildlife habitat, and vegetation mainly consists of big sagebrush, antelope bitterbrush, and bluebunch wheatgrass.

Trosi Series

Barnard-Trosi Association – The Trosi series consists of well drained soils that formed in gravelly, cobbly and stony alluvium from mixed rock sources at elevations between 4,800 and 5,200 feet. Taxonomic classes for this series include clayey-skeletal, smectitic, meisc and shallow Xeric Argidurids. These soils occur on gently sloping to steep and are on old terraces. Coloration is light brown and dark brown in the top 7 inches and pink, strong brown, brown, yellowish red and dark reddish brown down to 26 inches deep. The mean annual precipitation is 6 to 12 inches and the mean annual temperature is 48 to 50 degrees Fahrenheit. The geographic climate is semiarid, and the average frost-free season is about 60 to 90 days. The primary use of this soil is for rangeland, and vegetation mainly consists of stunted big sagebrush, cheatgrass and a few perennial grasses. Trosi soils were formerly classified as Brown soils. Study is needed on the organic matter content of these soils and the best assignment of a subgroup. Setting and interpolation of data suggest a Xeralfic rather than Xerollic subgroup.

Truckee Series

Truckee sandy loam (gravel substratum), Truckee sandy loam (sandy substratum, strongly saline), Truckee silt loam – The Truckee series consists of very deep, poorly drained soils that formed in mixed alluvium at elevations between 3,900 and 4,800 feet. Taxonomic classes for this series include fine-loamy, mixed, superactive, and mesic Fluvaquentic Haploxerolls. These soils occur on fan plains and stream terraces cut through lake terraces with slopes of 0 to 2 percent. Coloration is gray, dark grayish brown, very dark grayish brown, grayish brown, light brownish gray, gray, very dark brown, light gray, stratified light gray and black to 62 inches deep. The mean annual precipitations are 7 to 12 inches and mean annual temperature is 50 to 52 degrees Fahrenheit. The seasonable water table occurs from 1.5 to 3.5 feet deep, and the average frost-free season is about 100 to 130 days. The primary use of this soil is for cropland, rangeland and wildlife habitat and the vegetation mainly consists of big sagebrush, sweet clover, red top, wiregrass, bluegrass, Timothy, willows and wild rose.

Vamp Series

Vamp fine sandy loam (slightly saline-alkali), Vamp silt loam (strongly saline-alkali) – The Vamp series consists of moderately deep, somewhat poorly drained soils that formed in alluvium derived from mixed rocks at elevations between 4,413 and 4,610 feet. Taxonomic classes for this series include coarse-loamy, mixed, superactive, and mesic Aquicambidic Haplodurids. These soils occur on flood plains and terraces with slopes of 0 to 2 percent. Coloration is light grayish brown, brown, yellowish brown, light olive gray, to dark grayish brown down to 60 in deep. The mean annual precipitations are 7 to 10 inches and mean annual temperature is 48 to 52 degrees Fahrenheit. The geographic climate is semiarid with an average frost-free season of about 100 to 110 days. The primary use of this soil is for pasture, wildlife and urban development, and vegetation mainly consists of saltgrass, rabbitbrush, black greasewood, pepperweed and wiregrass.

Verdico Series

Verdico extremely stony sandy loam (8 to 15 percent slopes), Verdico very stony sandy loam (4 to 8 percent slopes) – The Verdico series consists of moderately deep, well drained soils that formed in alluvium, colluvium, and residuum derived from water-laid tuff sources at elevations between 4,500 and 7,000 feet. Taxonomic classes for this series include fine, smectitic and mesic Vertic Paleagrids. These soils occur on flood plateaus, hills, strath terraces and rock pediments with slopes of 4 to 30 percent. Coloration is brown to pale brown down to 2 inches deep and light yellowish brown and yellowish brown down to 29 in deep. The mean annual precipitations are 8 to 12 inches and mean annual temperature is 48 to 50 degrees Fahrenheit. The geographic climate is semiarid with an average frost-free season of about 90 to 100 days. The primary use of this soil is for rangeland, wildlife habitat and urban development, and vegetation mainly consists of low sagebrush, Douglas rabbitbrush, black greasewood, horsebrush and bottlebrush squirreltail.

Washoe Series

Washoe gravelly sandy loam (0 to 4 percent slopes) – The Voltaire series consists of very deep, well drained soils that formed in alluvium derived from mixed igneous rocks at elevations between 4,400 to 5,200 feet. Taxonomic classes for this series include loamy-skeletal, mixed, superactive, and mesic Xeric Haplargids. These soils occur on terraces with slopes of 0 to 15 percent. Coloration is brown, very dark grayish brown, pale brown, dark brown, light yellowish brown and yellowish brown down to 60 inches deep. The mean annual precipitations are 8 to 12 inches and mean annual temperature is 30 to 32 degrees Fahrenheit. The geographic climate is semiarid with an average frost-free season of about 90 to 110 days. The primary use of this soil is for rangeland and urban development, and vegetation mainly consists of Wyoming big sagebrush, Nevada ephedra, rabbitbrush, Anderson's peachbrush, and bottlebrush squirreltail.

Wedekind Series

Wedekind gravelly loam (8 to 15 percent slopes), (15 to 30 percent slopes) – The Wedekind series consists of shallow, well drained soils that formed in residuum derived from volcanic rocks at elevations between 4,500 to 6,200 feet. Taxonomic classes for this series include loamy, mixed, superactive, mesic and shallow Aridic Argixerolls. These soils occur on hills, mountains and plateaus with slopes of 2 to 50 percent. Coloration is brown, strong brown and dark brown down to 14 inches deep. The mean annual precipitations are 10 to 12 inches and mean annual temperature is 46 to 50 degrees Fahrenheit. The geographic climate is semiarid with an average frost-free season of about 100 to 110 days. The primary

use of this soil is for recreation, rangeland and urban development, and vegetation mainly consists of Wyoming big sagebrush, Nevada ephedra, rabbitbrush, horsebrush, wild currant, antelope bitterbrush, cheatgrass and bottlebrush squirreltail.

Xeric Torriorthents

Xeric Torriorthents-Urban land complex – No description available.

Zephan Series

Zephan stony sandy loam (15 to 30 percent slopes) – The Zephan series consists of moderately deep, well drained soils that formed in residuum and colluvium derived from rhyolite and altered andesite sources at elevations between 4,495 to 6,496 feet. Taxonomic classes for this series include clayey-skeletal, smectitic and mesic Xeric Haplargids. These soils occur on mountains, plateaus and hills with slopes of 4 to 50 percent. Coloration is brown, pale brown, light yellowish brown, dark yellowish brown and strong brown down to 42 in deep. The mean annual precipitations are 8 to 12 inches and mean annual temperature is 46 to 52 degrees Fahrenheit. The geographic climate is semiarid with an average frost-free season of about 80 to 110 days. The primary use of this soil is for recreation, wildlife habitat and urban development, and vegetation is primarily big sagebrush ephedra, rabbitbrush, horsebrush, low sagebrush, cheatgrass and bottlebrush squirreltail.